



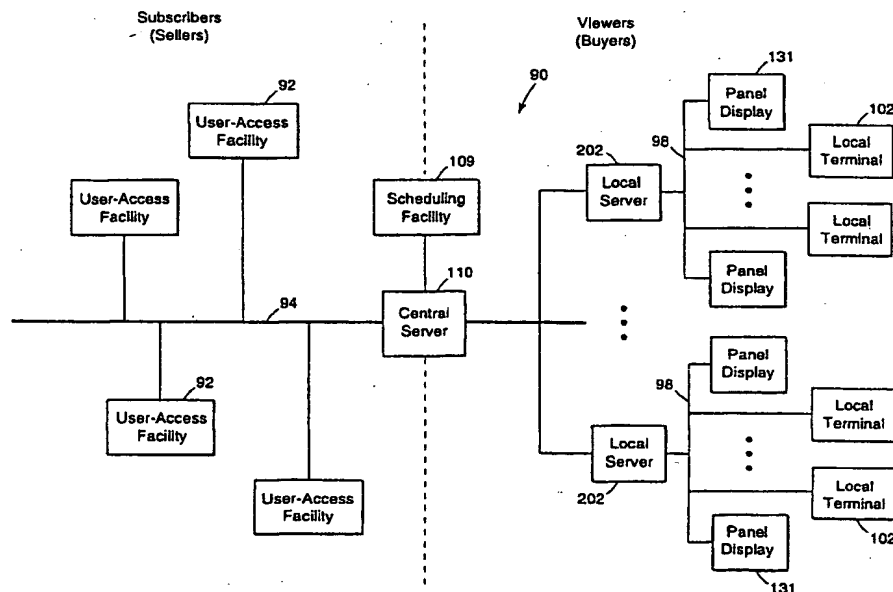
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>7</sup> : <b>G06F 17/60</b>		<b>A2</b>	(11) International Publication Number: <b>WO 00/52621</b>
			(43) International Publication Date: 8 September 2000 (08.09.00)
(21) International Application Number: PCT/US00/05553 (22) International Filing Date: 3 March 2000 (03.03.00) (30) Priority Data: 60/122,815 4 March 1999 (04.03.99) US (71) Applicant: VUETOPIA, INC. [US/US]; Suite 100, 2430 Vineyard Avenue, Escondido, CA 92029 (US). (72) Inventors: AGARWAL, Anil, K.; 12793 Cherrywood Street, Poway, CA 92064 (US). ALI, Saiyed, M.; 2633 Unicomio, Carlsbad, CA 92009 (US). (74) Agent: HOLLINGSWORTH, Mark, A.; Mueting, Raasch & Gebhardt, P.A., P.O. Box 581415, Minneapolis, MN 55458-1415 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>Without international search report and to be republished upon receipt of that report.</i>	

(54) Title: GLOBALLY NETWORKED ADVERTISEMENT DISSEMINATION AND SCHEDULING SYSTEM AND METHOD

## (57) Abstract

An apparatus, method, and computer readable medium for displaying and scheduling advertising and other information provides for generating, for one or more subscribers, presentation time and location requests for displaying, at prescribed times and dates, subscriber-provided information on selected publicly viewable displays situated at a number of geographically distinct locations. Presentation times are scheduled for displaying the subscriber-provided information on the selected displays in response to the generated presentation time and location requests. The subscriber-provided information is displayed on the selected publicly viewable displays according to the scheduled presentation times. The subscriber-provided information generally constitutes advertising information, and typically includes one or more of textual, graphical, animation, photographic, motion video or audio information. Information in addition to subscriber-provided information may be displayed on selected displays, such as one or more of textual, graphical, animation, photographic, motion video, audio, or live broadcast information. The subscriber-provided information and other information is preferably verified to ensure that the information meets one or more pre-established standards prior to scheduling presentation times for displaying the subscriber-provided information or prior to displaying the subscriber-provided information. Subscriber and viewers interact with a central server of the system via a web-site. The central server is coupled to local servers which, in turn, are coupled to respective publicly viewable large panel displays. Subscriber-content and other information is presented on the panel displays to viewers who may interact with the system via local terminals/kiosks situated proximate the panel displays.



THE INTERNATIONAL PATENT CO-OPERATION TREATY  
 1977

# ANNEX

LIST OF STATES PARTY TO THE PCT ON THE FRONT PAGES OF PAMPHLETS PUBLISHING INTERNATIONAL APPLICATIONS UNDER THE PCT.

THE LIST IS ARRANGED ALPHABETICALLY BY COUNTRY CODE, AND THEN BY COUNTRY NAME.

THE COUNTRY CODES ARE THE THREE LETTER CODES USED BY THE UNITED NATIONS TO IDENTIFY COUNTRIES.

THE COUNTRY NAMES ARE IN ENGLISH.

## LIST OF STATES PARTY TO THE PCT ON THE FRONT PAGES OF PAMPHLETS PUBLISHING INTERNATIONAL APPLICATIONS UNDER THE PCT.

THE LIST IS ARRANGED ALPHABETICALLY BY COUNTRY CODE, AND THEN BY COUNTRY NAME.

THE COUNTRY CODES ARE THE THREE LETTER CODES USED BY THE UNITED NATIONS TO IDENTIFY COUNTRIES.

THE COUNTRY NAMES ARE IN ENGLISH.

THE LIST IS ARRANGED ALPHABETICALLY BY COUNTRY CODE, AND THEN BY COUNTRY NAME.

THE COUNTRY CODES ARE THE THREE LETTER CODES USED BY THE UNITED NATIONS TO IDENTIFY COUNTRIES.

THE COUNTRY NAMES ARE IN ENGLISH.

### FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CM	Cameroon		Republic of Korea	PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakhstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

## GLOBALY NETWORKED ADVERTISEMENT DISSEMINATION AND SCHEDULING SYSTEM AND METHOD

5

### FIELD OF THE INVENTION

The present invention relates generally to information systems and methods, and, more particularly, to a system, method, and computer readable  
10 medium for electronically disseminating advertising and other information to public and/or private venues.

### BACKGROUND OF THE INVENTION

15

Various conventional modes of visual/audio advertising and information dissemination include those that involve the use of television (TV), still display advertising, and advertising over the Internet. Broadcast TV, for example, reaches approximately 94% of North American households. Although the  
20 number of potential TV viewers is large, television advertising is extremely expensive (Broadcast TV: about \$18.00 per 30 second segment; Cable TV: about \$9.90 per 30 second segment) and generally unavailable as an advertising medium for most businesses. Additionally, changing TV ad content and implementing such changes is time consuming. Also, TV advertising content is  
25 broadcast to all viewer simultaneously and, at present, cannot be disseminated on a per TV/viewer site basis. Advertising by radio has similar associated limitations and expenses (about \$5.30 per 60 second spot).

Still display advertising involves the use of static print advertising, such as newspapers, yellow pages, catalogs, postcards, mailers, magazines, indoor and  
30 outdoor billboards, and the like. These advertising media require significant preparation effort and time to launch an ad campaign, and cannot accommodate fast or immediate changes to ad content. Print advertising is also relatively expensive (Magazine: about \$8.70 per full color page; Newspaper: about \$10.50 per ¼ black-and-white page).

Internet advertising involves the use of a computer to connect a viewer to one of a number of Internet Service Providers (ISP), which, in turn, provides viewer connection to various search and information services of interest. Some of these services display advertisement material and banners throughout the screen.

Most advertising content prepared today requires significant amounts of preparation time and financial expenditures. Print advertising is fixed for a period of time because of the time associated with preparation and distribution of print advertising campaigns. Television advertising is geared toward home viewing in general, and is not amenable to per site distribution. A problem with web-based advertising is that a given target audience may reside beyond the reach of services offered by a particular provider/seller. In other words, a customer may not reside within a reasonable geographical area of coverage relative to a given seller.

Moreover, many of the above-mentioned advertisement mediums available today are ill-suited to provide local goods/service providers a high degree of exposure within the communities they serve. Although print advertising is more suitable for this directed type of media, print advertising needs to be disseminated repeatedly to gain multiple impressions, through continuous printing and distribution of printed paper material.

There exists a need for a more effective system and method for reaching potential buyers of products and services with advertising and other information at a reduced cost, and for quickly responding to buyer requests for product/service information and orders. There exists a further need for a system and method for developing a strategy for reaching potential buyers based on buyer characteristics. There exists yet a further need for a system and method that efficiently distributes multi-media advertising content and other information to pre-selected local and/or global sites for public and private viewing. The present invention fulfills these and other needs.

## SUMMARY OF THE INVENTION

The present invention is directed to a system, method, and computer readable medium for distributing advertising and other information on a local or global scale. A system, method, and computer readable medium of the present invention provide for receiving subscriber-provided information representative of advertising or other information from one or more subscribers. A distribution time request representative of a requested time or frequency for distributing subscriber-provided information is received from one or more of the subscribers. A location request representative of a location of one or more destinations for receiving subscriber-provided information is also received from one or more of the subscribers. Distribution times and locations are then scheduled for distributing the received subscriber-provided information to the destinations using the received presentation time and location requests.

The subscriber-provided information generally constitutes advertising information. The subscriber-provided information may, for example, include one or more of textual, graphical, animation, photographic, motion video, audio, or live broadcast information. The subscriber-provided information is typically encrypted, such that encrypted subscriber-provided information is decrypted when received at the destinations. The subscriber-provided information is typically verified to ensure that it meets one or more pre-established standards prior to scheduling distribution times or prior to distributing the subscriber-provided information.

The distribution time and location requests may be received via a local or remote communication connection. Distribution time and location requests may also be received via an Internet interface or world-wide web site. A requesting subscriber may obtain, in substantially real-time, status information concerning selected destinations, such as the availability of a specified destination to receive subscriber-provided information. Scheduling the distribution times often involves resolving conflicts arising from conflicting distribution time and/or location requests.

A requesting subscriber may be provided access to one or more application modules to facilitate preparation of the requesting subscriber's information, such as advertising content. A subscriber may also be provided

access to demographic data concerning one or more geographic locations or regions. The distribution location requests generated by a requesting subscriber may comprise location information associated with one or more demographic profiles selected by the requesting subscriber. Scheduling the distribution times  
5 may involve scheduling times for distributing the subscriber-provided information to selected destinations selected in accordance with the demographic profiles.

According to another embodiment of the present invention, distributing advertising and other information for presentation on publicly viewable displays  
10 involves receiving subscriber-provided information representative of advertising or other information from one or more subscribers. A presentation time request representative of a requested time or frequency for displaying subscriber-provided information associated with each subscriber is received from each subscriber. A presentation time request, for example, may be specified as a  
15 requested frequency of presenting the user-provided information over a specified duration of a day, month, or year.

A location request representative of a location of one or more of the publicly viewable displays is also received from each subscriber. Presentation times and locations for presenting the received subscriber-provided information  
20 on selected displays are then scheduled using the received presentation time and location requests. The subscriber-provided information may, for example, include advertising and other information associated with one or more businesses situated near the selected displays.

In accordance with another embodiment of the present invention,  
25 distributing advertising and other information involves accessing, by one or more subscribers, buyer demographic information associated with geographic locations provided with one or more publicly viewable displays. The buyer demographic information assists a particular subscriber in identifying buyers susceptible to the particular subscriber's information. Presentation time and  
30 location requests for displaying subscriber-provided information on selected displays are received from one or more of the subscribers. The presentation time requests may be representative of a requested frequency of displaying the subscriber-provided information over a specified duration of a day, month, or year. In response to the received presentation time and location requests, a

schedule of available time slots for displaying subscriber-provided information on selected displays is scheduled in accordance with the buyer demographic information.

The buyer demographic information is provided to assist a particular subscriber in developing one or more buyer profiles. Each of the buyer profiles identify buyers susceptible to the subscriber-provided information. The buyer demographic information typically includes information concerning the number of buyers associated with each of a number of demographic categories that are likely to be present at selected display locations. The buyer demographic information may also include information concerning the number of buyers associated with each of a number of demographic categories that are likely to be present at selected display locations as a function of time.

The schedule of available time slots is generally established to maximize exposure of the particular subscriber's information to identified buyers susceptible to the particular subscriber's information. The schedule of available time slots may be established to customize a particular subscriber's media campaign. A requesting subscriber may access one or more application modules to facilitate preparation of the requesting subscriber's information for display on selected displays.

According to a further embodiment, a system for distributing advertising and other information includes a number of user-access facilities each coupled to a network connection. Each of the user-access facilities generates a presentation time request representative of a requested time or frequency for displaying subscriber-provided information associated with each subscriber. The subscriber-provided information typically includes one or more of textual, graphical, animation, photographic, motion video, audio or live broadcast information.

The user-access facilities also generate a location request representative of a location of one or more publicly viewable displays. A central server is coupled to each of the user-access facilities via the network connections and receives the generated presentation time and location requests. A scheduling facility is coupled to the central server. The scheduling facility schedules presentation times and locations for presenting subscriber-provided information on selected displays using the received presentation time and location requests.

The scheduling facility resolves conflicts arising from conflicting presentation time and/or location requests.

The scheduling facility typically schedules presentation times on the basis of time slots. A time slot typically defines a predetermined duration of information presentation time. The scheduling facility, for example, may  
5 schedule presentation times on the basis of time slots ranging from about 1 second to about 5 seconds in duration. The scheduling facility may also schedule presentation times on the basis of blocks of information data.

The user-access facilities may be further used to transmit subscriber-  
10 provided information to the central server. The user-access facilities may access the central server via a home or business network connection. The user-access facilities may comprise or provide access to a world-wide web site. The user-access facilities are typically coupled to the central server via a firewall. The central server further verifies that the subscriber-provided information meets one  
15 or more pre-established standards. The central server may also be coupled to a database which stores demographic data, such that each of the user-access facilities has access to the demographic database.

The user-access facilities may be used to generate one or more buyer profiles that define buyer characteristics or demographics. The scheduling  
20 facility may schedule the presentation times for displaying the subscriber-provided information on selected displays provided at geographic locations selected in accordance with the defined buyer profiles. The central server may generate one or more reports associated with scheduling of the subscriber-provided information for presenting subscriber-provided information on selected  
25 displays.

According to another embodiment, the system includes one or more panel displays provided for public viewing at each of a number of geographically distinct locations. The system further includes a number of local servers. Each of the local servers is coupled to one or more of the panel displays  
30 within one of the geographically distinct locations. The central server communicates with the local servers to obtain status information concerning the panel displays. The system may also include a number of regional servers. Each of the regional servers is coupled to the central server and one or more local servers situated within a prescribed geographical region.



According to yet another embodiment of the present invention, a computer readable medium embodying program instructions for distributing advertising and other information provides for receiving subscriber-provided information representative of advertising or other information from one or more subscribers. The program instructions further provide for receiving, from one or more of the subscribers, a distribution time request representative of a requested time or frequency for distributing subscriber-provided information. A location request representative of a location of one or more destinations for receiving subscriber-provided information is also received from one or more of the subscribers. Distribution times and locations for distributing the received subscriber-provided information to the destinations are then scheduled using the received presentation time and location requests.

According to yet another embodiment of the present invention, a computer-readable medium embodying program instructions for distributing advertising and other information provides for accessing, from one or more subscribers, buyer demographic information associated with geographic locations provided with one or more publicly viewable displays. The buyer demographic information assists a particular subscriber in identifying buyers susceptible to the particular subscriber's information. The program instructions further provide for receiving, from each of the subscribers, presentation time and location requests for displaying subscriber-provided information on selected displays. In response to the received presentation time and location requests, a schedule of available time slots for displaying subscriber-provided information on selected displays is generated in accordance with the buyer demographic information.

A further embodiment of the present invention is directed to a system, method, and computer readable medium for displaying advertising and other information. A system, method, and computer readable medium of the present invention provides for generating, for one or more subscribers (e.g., sellers), presentation time and location requests for displaying, at prescribed times and dates, subscriber-provided information on selected publicly viewable displays situated at a number of geographically distinct locations.

Presentation times are scheduled for displaying the subscriber-provided information on the selected displays in response to the generated presentation

time and location requests. The subscriber-provided information is displayed on the selected publicly viewable displays according to the scheduled presentation times. Subscriber-provided information or selected subscriber-provided information may also be displayed on a display situated at a user's home according to the scheduled presentation times or in response to a home user command.

Requesting subscribers may query and receive status information concerning selected displays in substantially real-time. Various types of reports associated with displaying of the subscriber-provided information may be generated. Such reports include, for example, billing reports, accounting reports or proof of displaying reports associated with displaying of the subscriber-provided information. The reports may be generated locally, remotely, via a network or Internet connection or via a world-wide web-site.

In accordance with another embodiment of the present invention, displaying advertising and other information involves displaying, according to a schedule of presentation times, subscriber-provided information on one or more selected publicly viewable displays situated at each of a plurality of geographically distinct locations. A publicly accessible user-interface is provided at some or all of the geographically distinct locations. User requests associated with particular displayed subscriber-provided information are received from the publicly accessible user-interfaces and subsequently processed. User requests associated with particular displayed subscriber-provided information may also be received from user interfaces other than the publicly accessible user-interfaces.

Product and/or service information associated with particular displayed subscriber-provided information may be accessed using the user-interfaces. The user-interfaces may also be used to access product and/or service information associated with a particular subscriber. In addition, user requests associated with particular displayed subscriber-provided information or with a particular subscriber may be received from a user-interface other than the publicly accessible user-interfaces. The user requests may include user requests for access to the Internet or other network or network service.

The user requests may also include requests for additional information associated with the particular displayed subscriber-provided information. The

additional information is provided to the user via the publicly accessible user-interfaces in response to the user requests. The additional information may also be provided to a user via mail, courier, or user email in response to the user requests.

5        User orders for products or services associated with the particular displayed subscriber-provided information may further be received using the publicly accessible user-interfaces. User orders may be confirmed, such as by confirming charges to user specified charge accounts, using the publicly accessible user-interfaces.

10        Receiving user requests may include receiving user profiles defining user preferences or product/services needs. Additional information consistent with the user profiles may be provided using the publicly accessible user-interfaces, the Internet or other network. Various user accounts, such as email and charge accounts, may be established using the publicly accessible user-interfaces, the  
15        Internet or other network.

      According to a further embodiment of the present invention, a system for displaying advertising and other information includes one or more panel displays provided for public viewing at each of a number of geographically distinct locations. The system also includes a number of local servers and a central  
20        server coupled to each of local servers. Each of the local servers is coupled to one or more of the panel displays within one of the geographically distinct locations. The panel displays are coupled to the local servers via a hardwire or  
25        wireless connection.

      The system may further include a number of regional servers. Each of  
25        the regional servers is coupled to the central server and one or more local servers situated within a prescribed geographical region. The regional servers control a single panel system or a group of panels, along with a number of local terminals. A regional server may also operate as a local server to a special group, such as super-stores, a hotel group or a corporation with multiple locations.

30        One or more user-access facilities are coupled to the central server. A user-access facility preferably includes a world-wide web-site. The user-access facilities are preferably coupled to the central server via a firewall. Each of the user-access facilities permits a subscriber to generate presentation time and location requests for displaying, at prescribed times and dates, subscriber-

provided information on selected panel displays. The presentation time requests may be specified in terms of a requested frequency of displaying subscriber-provided information over a specified duration of time, such as over the course of a day, month, or year.

- 5       The central server schedules presentation times for displaying the subscriber-provided information on the selected displays in response to the generated presentation time and location requests, and cooperates with the local servers to display, according to the scheduled presentation times, the subscriber-provided information on the selected publicly viewable displays. The central  
10   server resolves conflicts arising from conflicting presentation time and/or location requests.

- The subscriber-provided information typically includes one or more of textual, graphical, animation, photographic, motion video or audio information. The central server may further cooperate with the local servers to display  
15   information in addition to subscriber-provided information on selected panel displays. The additional information may include one or more of textual, graphical, animation, photographic, motion video, audio, or live broadcast information. The central server further verifies that the subscriber-provided information meets one or more pre-established standards prior to scheduling  
20   presentation times for displaying the subscriber-provided information or prior to displaying the subscriber-provided information.

- Each of the panel displays includes a local control system that cooperates with a local server to coordinate displaying of the subscriber-provided information on the panel display. Each of the local control systems includes a  
25   local controller coupled to local memory, a mass storage device, and a high-speed communication interface. Each of the local control systems may alternatively include a local controller coupled to local memory, a video controller, a hard disk drive, and a high-speed communication interface.

- The presentation location requests received by the central server may  
30   include location information associated with one or more demographic profiles selected by requesting subscribers. The central server schedules the presentation times for displaying the subscriber-provided information on selected displays provided at geographic locations selected in accordance with the demographic profiles. In response to requests from subscribers, the central server provides

status information concerning selected displays via the user-access facilities in substantially real-time.

The central server may also be accessible to a user via a home or business network connection. The central server coordinates displaying, according to the scheduled presentation times or in response to a home user command, the subscriber-provided information or selected subscriber-provided information on a display situated at a user's home or business via the home or business network connection. The central server generates one or more reports associated with displaying of the subscriber-provided information, such as billing reports, accounting reports or proof of displaying reports associated with displaying of the subscriber-provided information.

In accordance with a further embodiment of the present invention, a system for displaying advertising and other information includes one or more panel displays provided for public viewing at each of a plurality of geographically distinct locations. The system also includes one or more public user-interfaces provided at one or more of the geographically distinct locations. Each of a number of local servers is coupled to one or more of the panel displays and public user-interfaces within one of the geographically distinct locations. A central server is coupled to each of local servers.

A user-access facility is coupled to the central server which permits subscribers to generate presentation time and location requests for displaying, at prescribed times, dates, and/or frequencies, subscriber-provided information on selected panel displays. The central server cooperates with the local servers to display, according to a schedule of presentation times, subscriber-provided information on one or more selected publicly viewable displays situated at each of a plurality of geographically distinct locations. The central server further receives user requests associated with particular displayed subscriber-provided information from the public user-interfaces.

The public user-interfaces provide access to product and/or service information associated with particular displayed subscriber-provided information or product and/or service information associated with a particular subscriber. The central server receives user requests and transmits responses to received user requests associated with particular displayed subscriber-provided information or with a particular subscriber from a user-interface other than the public user-

interfaces. The responses include one or more of textual, graphical, animation, live broadcast, motion video or audio responses provided using the public user-interfaces.

5 The central server is coupled to a billing facility that processes user orders for products or services associated with the particular displayed subscriber-provided information or with a particular subscriber. The central server also establishes user accounts in response to user requests received from the public user-interfaces, the Internet or other network connection. The central server generates a variety of reports in response to requests received from the  
10 public user-interfaces and/or the user-access facility.

A further embodiment of the present invention includes a computer readable medium embodying program instructions for displaying advertising and other information. The program instructions according to this embodiment provide for generating, for one or more subscribers, presentation time and  
15 location requests for displaying, at prescribed times, dates and/or frequencies, subscriber-provided information on selected publicly viewable displays situated at a plurality of geographically distinct locations. Presentation times are generated for displaying the subscriber-provided information on the selected displays in response to the generated presentation time and location requests.  
20 The subscriber-provided information is displayed on the selected publicly viewable displays according to the scheduled presentation times.

According to another embodiment of the present invention, a computer readable medium embodying program instructions for displaying advertising and other information provides for displaying, according to a schedule of  
25 presentation times, subscriber-provided information on one or more selected publicly viewable displays situated at each of a plurality of geographically distinct locations. The program instructions further provide for a publicly accessible user-interface at some or all of the geographically distinct locations, and receiving, from the publicly accessible user-interfaces, user requests  
30 associated with particular displayed subscriber-provided information.

The above summary of the present invention is not intended to describe each embodiment or every implementation of the present invention. Advantages and attainments, together with a more complete understanding of the invention, will become apparent and appreciated by referring to the following detailed

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific information required.

## BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a system level block diagram of a system for displaying advertising and other information according to an embodiment of the present invention;

Fig. 2 is a flow diagram of various steps involved in the scheduling of subscriber advertising and other content for display at selected geographical locations;

Fig. 3 is a flow diagram of various steps associated with the use of publicly accessible user-interfaces in connection with specified display locations according to an embodiment of the present invention;

Fig. 4 illustrates several steps associated with the scheduling and distribution of subscriber advertising content and other information to specify destination;

Fig. 5 illustrates various steps associated with scheduling of presentation times and locations for presenting subscriber content and other information on specified displays situated at geographically distinct locations;

Fig. 6 is a flow diagram of various steps involving the accessing and use of demographic information in connection with the distribution of subscriber contents at desired times and locations;

Fig. 7 is a system block diagram of a globally networked display advertising and information system in accordance with an embodiment of the present invention;

Fig. 8 is a block diagram of a local site network system for displaying subscriber advertising and other information at selected times and locations according to an embodiment of the present invention;

Figs. 9 and 10 depict two embodiments of a large panel screen display suitable for presenting simultaneous multi-media content of varying types and sources in accordance with the principles of the present invention;

Fig. 11 is a system block diagram of a cluster group system configuration according to an embodiment of the present invention;

Fig. 12 is a system block diagram of an independent corporate network for selectively displaying advertising and other media content in accordance with another embodiment of the present invention;



Fig. 13 is a system illustration of a community portal concept by which peripheral businesses and other local community locations are influenced by deployment of a globally networked display advertising and information system according to the present invention within the community; and

5 Fig. 14 is a system block diagram of an independent corporate portal concept by which users, buyers, and suppliers can electronically interact with a corporate deployment of a networked display advertising and information system according to an embodiment of the present invention.

While the invention is amenable to various modifications and alternative forms, specifics thereof have been shown by way of example in the drawings and will be described in detail hereinbelow. It is to be understood, however, that the intention is not to limit the invention to the particular embodiments described. On the contrary, the invention is intended to cover all modifications, equivalents, and alternatives falling within the scope of the invention as defined  
10 by the appended claims.  
15

#### DETAILED DESCRIPTION OF VARIOUS EMBODIMENTS

20 In the following description of the illustrated embodiments, references are made to the accompanying drawings which form a part hereof, and in which is shown by way of illustration, various embodiments in which the invention may be practiced. It is to be understood that other embodiments may be utilized, and structural and functional changes may be made without departing from the  
25 scope of the present invention.

An important aspect of the present invention is to bridge the gap between "one-to-many" (e.g., TV, print, cable) information dissemination mechanisms and "one-to-one" (e.g., Internet) information dissemination mechanisms. Large publicly viewable panel displays provide for one-to-many information  
30 dissemination, and local terminals situated nearby the panel displays, which have access to the system's web-site, provide for one-to-one information dissemination. This unique combination of information dissemination modes allows for directed advertising, as well as broad-based advertising on a local and/or global scale.

Another aspect of the present invention is to provide a dynamic advertising media, which are provided by large high-intensity panel displays placed in high-traffic areas. The types of persons viewing subscriber (seller) ads and information include consumers (i.e., shoppers), tourists, and business travelers, and the like, collectively referred to as viewers (buyers).

A further aspect of the present invention is to provide a centrally networked system having an access interface (e.g., web-site) that provides for real-time access to, and interactivity with, the system. Ad content can be prepared on subscriber computers/sites and, when completed, downloaded to the central web-site and scheduled to be displayed on intended panel displays nearly instantaneously and on a per panel/site basis. The flexibility associated with electronically transferring ad content provides the opportunity for subscribers to launch an ad campaign suited for local and/or global communities or viewers (buyers). An integrated system according to the present invention provides demographic data and analysis tools, time slot availability information, display location information, automated billing, ad previewing, editing, and design tools to form a complete electronic advertising and distribution system geared to creating ad content for targeting specific audiences.

Another aspect of the present invention is to combine the ad content with other information relevant to the local community, such as information concerning local events, specials, community activities, sports events, financial news, tutorials, and the like, to create a central source for value added information. The ad content and the information events created in full motion video or animated motion create pleasing images that appeal to viewers.

Yet another aspect of the present invention is to allow subscribers to reach their local communities. Ad campaigns can be tailored to the local community tastes and requirements (languages, customs, etc.) on a per panel display basis. The ad content can be repeated several times per hour throughout the day during regular business hours of operations to create multiple lasting impressions on the viewer while viewers are waiting in lines, eating food or sitting or walking nearby.

An additional aspect of the present invention is to provide a relatively low-cost advertising medium that reaches general and specific buyers on a local and/or global scale. For example, it is believed that the cost (on a cost per

thousand basis) for reaching potential buyers using a system, method or computer readable medium of the present invention can be as low as \$3.00 per 30 second spot. This cost is significantly lower than that of conventional advertising mechanisms, such as those discussed in the Background of the Invention.

Another aspect of the present invention is to provide subscribers, on a national basis, a facility to reach smaller communities of special interest. Ad campaigns can be tailored for a panel specific community, which can be highly effective when attempting to reach specific types of communities or viewers.

A further aspect of the present invention is to provide electronic transfer of ad content or message content for the global subscriber to reach smaller communities of mutual interest. By way of example, an owner of a ski resort in Alaska may wish to attract skiers from Europe.

Another aspect of the present invention is the ability for the subscriber to reach their audience in their own languages and customs with appealing graphical/motion video content almost instantly from anywhere in the world to anywhere in the world.

Yet another aspect of the present invention is to allow subscribers to view display location information, demographic data, and ad content currently being presented on any panel display on the system by accessing a central website. An integrated system according to the present invention allows subscribers to schedule their ad content from the display management software residing on the central system.

Another aspect of the present invention is to provide smaller terminals on a local area network that compliment the large panel displays and provide for system interactivity with the viewers. Viewers can obtain detailed information about the subscriber's product and services by accessing the Intranet available on the terminals located throughout the facility. The viewers can also post their requirements for the subscribers to fulfill.

A further aspect of the present invention is to provide viewers a facility to communicate to their friends and family members while they are visiting panel display sites, such as malls, airports, and sport/concert venues, by using the terminals connected on a local area network and connected to the Internet.

Another aspect of the present invention is to provide panel displays and monitors connected to the central site through a wired or a wireless local area network.

Yet another aspect of the invention is to provide a scalable architecture of the central system. Any panel system can be added to the network by simply  
5 assigning an Internet Protocol address, which provides connectivity to the central/regional network.

A further aspect of the present invention is to provide a software system residing on the central server that controls the various functions of the networked  
10 display advertising and information system. The central server includes software for facilitating web-site management, database management, content creation, content validation, content formatting and encryption, maintenance, billing, content scheduling and distribution, subscriber web-page hosting, viewer message management, and archiving, for example.

Another aspect of the present invention is the ability to control a panel  
15 display screen to dynamically mix a variety of audio/video data from a variety of sources, such as TV, DVD, MPEG files, and animation files, and allocate the different data to map to the various sections of a panel display screen.

Yet another aspect of the present invention is to provide small or large  
20 corporations with their own network to allow such entities the ability to create and distribute information to their employees, customers, and vendors. These corporations can customize the information to be distributed to intended displays on their own central system. The audio/video data can be passed through the Internet backbone to avoid the need to create a private data network.

In accordance with one embodiment of the present invention, a display  
25 advertising and information system includes a large number of globally networked, high intensity large panel displays located in high-traffic venues, such as shopping malls, airports, department stores, grocery stores, restaurants, convention centers, and the like. The electronically networked displays are  
30 particularly useful for expanding the capabilities of media planners, advertising agencies, businesses, and individuals that advertise and promote their goods and services to the public.

A networked system of panel displays and local terminals situated proximate the panel display according to the principles of the present invention

allows local community service providers, such as doctors, lawyers, real estate agents, financial planners, restaurant owners, insurance agents, car dealers, etc., to electronically reach their own sphere of the local community whom they serve. National companies and name brands, for example, can tailor their ad campaigns to best promote their products and services to all or particular sectors of the local and/or global community. On a global perspective, special interest groups, such as travel agencies, tourist bureaus, business organizations, etc., can attract regional communities in various parts of the world in their own languages and in accordance with local customs to promote their goods/services and interest in other parts of the worlds.

The displays are connected through a central or regional computer network, and are linked into the Internet system. The central system hosts a web-site and allows subscribers, referred to herein interchangeably as sellers, to access directly the current status of any panel display on the system by logging on to the web-site. The central system also provides application modules, which can be accessed through the web-site, to assist subscribers in preparing and viewing audio/visual data to be displayed on remote panel displays situated anywhere on the system.

The web-site maintains the most current data about a region's demographic data, display panel availability (time slot availability), and the ad/information content being exhibited on each panel display on the network. This data can be accessed by logging on to the web-site from anywhere in the world, so long as the individual has access to the Internet or other network having connectivity to the system. Once the advertising/information content is prepared and approved by the subscriber, and has passed the quality standards of the company, federal, and local authorities, if applicable, the audio/visual data can be transferred via the Internet and scheduled by the central computer system to be displayed on intended panel displays within the network.

The system provides subscribers, such as media planners, ad agencies, corporate marketing personnel, direct access to potential buyers and allows subscribers to launch tailored ad campaigns to target a particular demographic sector on an individual or multiple panel site basis. An ad campaign to be electronically executed is displayed nearly instantaneously in any part of the world from any part of the world, provided Internet or system network access is

available. Additionally, status information concerning a display and content presented thereon, as well as demographic data, can be viewed on the web-site from anywhere in the world. A content dissemination system and method of the present invention is paper free, nearly instantaneous, venue specific, and very flexible.

Distributors and producers of entertainment, news, cultural, and educational programming, for example, are provided with a facility to transmit electronically audio/video data to a site specific panel display. The audio/video data is encrypted to contain information about panel display location, password, schedule run time, and frequency of repeats on every frame of data supplied by the content provider. The encrypted data is transferred electronically through a high-bandwidth wired network or wireless satellite system from the subscriber/producer, through the Internet to a central system, and then routed to the intended panel display site. The encrypted data can only be played on the intended panel system and cannot be copied, which provides for protection of the content against unauthorized copying.

Directed advertisement campaigns targeting viewers in a shopping mall, for example, are significantly enhanced by implementing a networked display advertising and information system of the present invention. Large panel displays situated in a mall may be used to supplement print/radio/TV media directed to certain buyers, such as by reminding buyers of new specials of the day and the location of the store offering such specials in the mall. National brands, for example, can be incorporated into a local advertisement presentation or promotion for purposes of launching a new product.

Panel displays can also be used for special tutorials/lectures directed to private groups, such as private groups convening in a shopping mall or other forum after hours. The lectures can be electronically transmitted to the intended panel displays by the producers of the content, and can be promoted through the Internet web-site.

Panel displays provided at airports, for example, can be used to advise visitors of vacancies at various hotels or provide information/ticketing of events and any event specials. Visitors can use the local terminals to make their reservations on the network. The local terminals may be deployed in kiosks or other similar structures for public usage.

Presentations are typically structured to be appealing to an average viewer, such as by incorporating humor, information, and entertainment. A presentation script may include animation, with cartoons embedded within the script. For other presentations, content that appeals to certain lifestyles may be embedded within a subscriber's message.

Movie producer and distributor scripts, for example, can include electronically downloaded movie premiers to be viewed on selected panel displays to attract film goers. Scripts may contain trivia questions and answers along with the embedded information from the subscribers. Animated templates and video files may be created for subscribers to use. These templates and files may be integrated into the subscriber message content regarding their products and services. Finalized video clips can then be transferred to intended panel sites.

The panel displays are preferably of a type that provides for high intensity and image contrast. According to one embodiment, the panel displays may be of a size ranging from 42" to as large as 30 feet in terms of diagonal dimensions. The format can be regular VGA or a digital TV format, such as an HDTV format. The local terminals may be small terminals or touch screen terminals.

A typical panel display assembly includes an on-board display controller that coordinates that transmission and reception of audio/video data to and from a central system. The display controller performs the various tasks of graphic image control, data storage, data base management, scheduling, image scaling, and routing control to display various data feeds (composite video, TV or cable feed, DVD output, video camera, graphic data, animated data, MPEG data, etc.). The display controller also manages other components resident at the venue site which are connected on the local area network.

The display controller is assigned a unique Internet address (IP), and is individually accessible to the central system. Certain venues may have multiple display sites, and these sites can be organized into site clusters. The display controller for this cluster of displays becomes the master controller, and is directly accessible from the central system. A cluster member (slave) can have individual displays and operates as a slave to the master controller. The cluster members of displays exhibit the same audio/video content. This configuration

allows the central system to perform a single download of data (e.g., common content and schedule information) to the site group's master controller (cluster controller) which then controls the operation of its associated cluster members. This configuration provides for faster connectivity between the group's master controller and local slaves on a fast LAN.

The display controller includes a software module that provides high-speed connections to the central system through the Internet (i.e., host communications module), a screen controller module, message management module, dynamic screen mapping module, and maintenance module. The large panel displays typically display short duration audio/video data to create an audio-visual impact on the viewers. The screen has the capability to display audio/video data from a multitude of sources, and the controller module has the capability to display either singular data or a combination of data on different parts of the panel display.

The large display/group of large displays are linked to smaller terminals, such as touch screens or monitors, through a local server. The central server of the system is typically connected to many local servers. The central system provides software modules that facilitate e-commerce through secured connections. Billing system, data encryption, customer service, and other services are provided from the central web-site supported by the central server.

The local terminals are connected to the local controller by either hardwired or wireless communication links. The local terminals typically communicate over a local area network and become part of the intranet, with links to subscriber web-pages describing subscriber products and services. The local terminals may impose time restrictions for users in busy shopping areas. However, the user/viewer can access the central web-site from their home or business, and as such, are not limited by a local terminal time constraint. This provides viewers an alternate connectivity path to the subscribers.

The local terminals are situated at various locations near the large panel displays or distributed within a given facility (e.g., shopping malls with different stores housing one or more local terminals). The local terminals provide a source for information about local events, specials, message bulletins, etc. The local terminals provide viewers/buyers access to the Internet, and also provide for interactivity between sellers (subscribers) of goods or services and buyers



(viewers). Subscribers may place more detailed information about their product and services on the central server other network storage location, which can only be accessed by use of the smaller local display terminals. Viewers/buyers may also access such detailed information and other subscriber information from a home or business terminal. Viewers can access this more detailed information on the products and services offered by subscribers, and may also view any special information or special services or offers promoted by the subscribers.

Viewers can establish one or more accounts on the system, such as a charge or membership account or a user account (e.g., email/mailbox account) that allows viewers access to the Internet. The local terminals provide a facility for viewers to receive messages or send brief messages to their friends and family members while visiting the mall or other public forum in which the advertising and information dissemination system of the present invention is deployed. Viewers can also establish a profile of personal information (e.g., demographic data), including information about their product/services needs and interests. Viewers can then be notified of any specials or announcements concerning new products that match the viewers' needs or profile specifications. A viewer, for example, can post a request about a product or service of interest, which may then be fulfilled by subscribers on the system. This closed-loop system provides close interactivity between the subscribers (sellers) and viewers (buyers) of the system.

A system implemented in accordance with the principles of the present invention provides a unique solution to providing exposure to businesses serving a local community and also to understanding the needs of the local community they serve. Similarly, viewers get to know the local sellers of goods and services in their area. This new system concept is referred to as a "community portal." Viewers can also access the detailed information about a subscriber's products and services from any place in the world by logging on to the web-site and navigating to a regional area. The system also allows hot links to the subscriber's web-site through the central web-site.

By way of example, a shopping mall often serves as a central location for a community within which it is located. If one was to draw a circle having a ten mile radius around the mall location, this region may be referred to as the sphere of influence. Within this region, there are often hundreds or thousands of small

businesses which serve the needs of the local community. Small businesses often attempt to draw community attention to their goods/services using print media, radio, and/or broadcast TV advertising. The small business is often lost in the Internet due to the global reach of this medium. The small business typically needs only to attract attention from buyers within the community or sphere of influence in order for them to effectively serve the needs of the community. A large panel display situated in a local shopping mall or other public forum allows the display to become a central information source, as well as a new advertising medium for local business people, and also provides a facility for customers to access detailed web-pages about subscriber products and services.

Subscribers have access to various design tools and services available through the central web-site or a group of independent design service providers networked through the central web-site. Subscribers can generate content (e.g., audio/video data) using the design tools and/or services, edit content, view finalized content, save content, and then download the content file to the central server to be displayed on intended panel displays. The software modules made available to subscribers convert a variety of audio/video data inputs (e.g., composite video, DVD, graphic, MPEG, etc.) to a compressed digital format. The data files are then encrypted and transferred to the central system.

Subscriber content is displayed on the system on the basis of divided blocks of time. Each block of audio/video data, which is equivalent to a time slot of data, is preferably between 1 and 5 seconds in duration. It is understood that the definition and duration of a slot of data may be changed to meet system requirements or objectives. Slots can be grouped in blocks. Each block can be 1 to 12 slots, for example. The data in each block is repeated throughout the day depending upon the subscriber's needs.

The subscriber's data is typically interspersed with information data such as weather reports, news events, animated cartoon skits, lifestyle shows, financial reports, sports events, community events, general messages, and the like. The displays operate continuously during the business hours of operations where the displays are situated. The displays provide for either or both of video and audio output, and are controlled from the central system or by the display controller provided on or proximate the intended display.

Referring now to the drawings, Fig. 1 is a system block diagram of a globally networked display advertising and information system 90 in accordance with an embodiment of the present invention. The system 90 shown in Fig. 1 includes a central server 110 which communicates with other elements of the advertising and information system via a communication link 94. The central server 110 includes various software modules that manage the various functions of the centrally networked advertising and information network 90.

The system 90 depicted in Fig. 1 is shown bifurcated into two regions.

The region to the left of the vertical dashed line represents system elements with which subscribers or sellers primarily interact. The elements of system 90 to the right of the vertical dashed line represent components with which viewers or buyers primarily interact. The terms "subscriber" and "seller" are used interchangeably herein and refer to entities that provide content, such as advertising content, on the network 90. Subscribers or sellers are entitled to use the network 90 under a fee arrangement with the network owners. The terms "viewer" and "buyer" are used interchangeably herein and refer to entities that view subscriber or seller content that is presented via the network 90. Viewers or buyers generally interact with the network 90 on a non-fee basis, with the exception of certain interactions, such as placing orders or accessing restricted areas on the network 90, for example. A shopper at a mall or other public venue who is exposed to subscriber content via the network 90 represents an exemplary viewer or buyer within the context of the present invention.

The system 90 shown in Fig. 1 includes a central server 110 which contains software modules that manage the various functions of system 90. The central server 110 represents a conduit or vehicle for establishing and maintaining connectivity between subscribers and viewers via a communication link 94. Subscribers communicate with the central server 110 via user-access facilities 92, each of which is coupled to communication link 94. Viewers interact with system 90 in at least two important ways.

According to one embodiment of the present invention, system 90 may be implemented to effectively bridge the gap between one-to-many information dissemination mechanisms and one-to-one information dissemination mechanisms. Examples of one-to-many information dissemination mechanisms include television, print, and cable modes of communication. An example of one-to-one information dissemination mechanism is the Internet.

As shown in Fig. 1, the viewer's region of system 90 includes one or more panel displays 131 and one or more local terminals 102. The panel displays 131 are typically large panel displays which are situated in publicly viewable locations, such as shopping malls, airports, roadways, and a host of public and private buildings and facilities.

The panel displays 131 provide a one-to-many information dissemination mechanism, while local terminals 102, which are typically situated near one or more panel displays 131, provide a one-to-one information dissemination mechanism. Viewers may participate in the presentation of subscriber advertising and information by viewing panel displays 131 and listening to any audio content provided by the panel displays 131. Viewers may use a local terminal 102 to directly interact with system 90, such as by requesting more detailed information associated with subscriber ads/information presented on a panel display 131 or ordering products advertised on a panel display 131.

According to one embodiment of the present invention, a local server 202 is coupled to one or more panel displays 131 and one or more local terminals 102. In a typical system deployment, the central server 110 communication with a number of local servers 202 which are typically situated at geographically distinct locations relative to other local servers 202. Depending on the number of panel displays 131 and local terminals 102 deployed at a given location or area, several local servers 202 may be utilized at single or multiple geographical locations. Each local server 202 typically coordinates the activities of a cluster of panel displays 131 and local terminals 102. Each of the local servers 202 are coupled to the central server 110 via communication link 94.

A scheduling facility 109 is shown coupled to central server 110. Scheduling facility 109, although shown as directly linked to central server 110, may alternatively be coupled to central server 110 via communication link 94 or other communication link. Moreover, the scheduling facility 109 may be fully

or partially incorporated within the central server 110. The scheduling facility 109, as will be described in greater detail hereinbelow, choreographs the scheduling of subscriber content for presentation on selected panel displays 131 in accordance with a computed presentation schedule.

Referring now to Fig. 2, and with continued reference to Fig. 1, there is illustrated various process steps associated with the general operation of a globally networked advertising and information dissemination system according to an embodiment of the present invention. Subscribers to the information system 90 communicate with central server 110 and scheduling facility 109 via a user-access facility 92 in order to establish a desired presentation schedule.

Using a user-access facility 92, a subscriber generates 20 a presentation time request, which represents user desired dates and times for presenting their advertising or information content. It is understood that a presentation time request includes a request specifying display times/dates in terms of a requested display frequency, such as displaying content over the course of a day, month, or year, for example. A subscriber also generates 22 a presentation location request, which represents the geographical location of one or more panel displays 131 that will present the subscriber content. As will later be described in greater detail, various tools are made available to a subscriber for determining appropriate time and location parameters that will optimize their advertising investment or further a subscriber's advertising campaign.

The scheduling facility 109 of central server 110 receives the presentation time and location requests from each of the user-access facilities 92 and determines the availability of specified panel displays 131 at specified times (slot times) and locations. The central server 110 then generates 24 a schedule of presentation times for specified display locations in response to each of the user's presentation time and location requests. The central server 110 then cooperates with local servers 202 to display 26 subscriber content on specified displays at the prescribed times according to the pre-established presentation schedule.

Figure 3 illustrates another embodiment of the present invention which incorporates the capabilities of local terminals 102 shown in Fig. 1. It is assumed for purposes of this description that subscriber content is currently being presented 30 on a panel display 131 proximate a local terminal 102

according to a pre-established presentation time schedule. A viewer of the advertising or information content being presented on panel display 131 may generate a user request using one of the publicly accessible local terminals 102.

In a typical scenario, a viewer who is susceptible to advertising content presented on a neighboring panel display 131 may wish to obtain additional information concerning a particular advertised product or service. The viewer may further wish to place an order concerning a particular advertised product or service.

Using a local terminal 102, a viewer generates a user request which is received 32 by the central server 110. The viewer may access 34 subscriber product and/or service information stored in central server 110 via local terminal 102. The subscriber product/service information may also be accessed from resources other than central server 110, such as by activation of a hot link to a subscriber's web page or other information site, for example. The central server 110 satisfies the viewer's request, typically by providing 36 the requested information to the user's local terminal 102 or a user-specified destination, such as a personal e-mail address or other personal user interface. In the case of a viewer placing an order using a local terminal 102, the requested information 36 provided by central server 110 may include a confirmation of the order, which may be printed out using a printer situated proximate the local terminal 102.

Referring to Fig. 4, and with continued reference to Fig. 1, there is depicted various operations associated with generating a distribution time schedule by scheduling facility 109. According to this embodiment, a subscriber produces advertising or information content which may have various forms. For example, a subscriber may produce advertising content which includes one or more of textual, graphical, animation, photographic, motion video, audio, or live broadcast information. Moreover, a subscriber's content may include mixed-media or multi-media, in which various combinations of media are utilized to produce a given ad.

A subscriber transmits the advertising or information content via a user-access facility 92. The subscriber content is then received 40 by the central server 110 via communication link 94. The subscriber also transmits distribution time requests and distribution location requests via user-access facility 92. The distribution time requests and location requests are received 42, 44 by the central

server 110. A presentation time request may be in the form of a specified time of day and one or more associated dates. Alternatively, a presentation time request may be representative of a requested frequency of displaying subscriber-provided information over a specified duration of time, such as over the course of a day, month, or year.

The scheduling facility 109 then produces 46 a schedule of distribution times and locations for distributing the subscriber content to specified destinations. In accordance with this embodiment, the subscriber content may be distributed to various end destinations, such as individual personal computers coupled to communication link 94, personal e-mail address accounts, corporate e-mail accounts, or other termination equipment, in addition to local servers 202 for presentation on panel displays 131.

Figure 5 illustrates various operations associated with the scheduling of subscriber advertising content developed particularly for the purpose of presenting the content on specified panel displays 131. According to this embodiment, central server 110 receives subscriber advertising content 50 from each of a number of subscribers. Central server 110 also receives presentation time and location requests, 52, 54 from each of the subscribers. The scheduling facility 109 schedules presentation times and locations 56 for presenting subscriber content on the specified displays.

Figure 6 illustrates various operations associated with determining a subscriber's needs with respect to targeting prospective buyers based on demographic, location, and time considerations. A seller of particular services or goods may wish to determine whether the advertising and information system reaches target buyers and/or target locations. In order to assess the potential advertising impact for a given product or service, a seller may access 60 buyer demographic information stored in central server 110. The buyer demographic information is typically associated with geographic locations and/or regions.

The demographic information may identify potential buyers based on various criterion, including income, education, ethnicity, personal habits and hobbies, buying habits, profession, and other known demographic considerations. In one embodiment, a potential subscriber may define a target buyer in terms of demographic information, which may include geographic locations or regions as well. After defining a desired or target buyer in terms of

demographics, the potential subscriber specifies distribution time and location requests, which are received 62, 64 by the central server 110. The central server 110 identifies 66 display locations frequented by target buyers based on the subscriber's demographic analysis and results. The central server 110 then  
5 generates 68 a schedule of available time slots for displaying subscriber content on specified displays to attract the target buyers.

Figure 7 illustrates, in greater detail, an advertising and information dissemination system 100 in accordance with another embodiment of the present invention. The central server 110, which is typically situated at a data center,  
10 contains a number of software modules that manage the various functions and applications of the system 100. It is to be understood that central server 110 may constitute a single server system at a single location or a distributed server defined by several remotely situated server systems. In accordance with a distributed server architecture, individual server elements may communicate  
15 over public and/or private communication links, including the Internet.

The central server 110 is shown in Fig. 7 to include a number of software modules including a web-site manager 111, a database manager 112, and audio/video (A/V) data manager 113, a screen manager 114. And a data router/data formatter 115. The central server 110 further includes a variety of  
20 design tool 116, a subscriber database 117, a viewer database 118, and an e-commerce/billing module 119.

In one embodiment, user-access facilities 92, shown in Fig. 1, communicate with the central server 110 via the Internet and a central server web-site. The web-site manager 111 manages the web-site and communications  
25 between user-access facilities 92 and the central server 110. The web-site manager 111 may include general information pages and customer (i.e., subscriber) support pages for registered customers.

General information pages may include promotional texts and general web-site usage information. The general information pages may further include  
30 descriptions concerning the physical site of the panel displays, such as the location of the physical panels, the size of the panels and resolution density, hours of operation, and any site-specific rules that may apply to the operation of the panel displays. New customer registration information and a customer registration facility are also provided by the web-site manager 111.



The web-site manager 111 further includes customer or subscriber support pages which are specified for registered customers only. The subscriber support pages provide for password access to certain subscriber-only pages, and may include designated separate areas for each registered customer.

- 5 Tools 116 are also provided to assist subscribers in supplying message content. Tools are available at the web-site to create messages. Personnel may also be available to assist subscribers in the development of message content.

The advertising or message content may also constitute content created solely by the subscriber. The subscriber-provided content is subject to content validation  
10 through site-specific rules/compliance rules, such as those imposed by local or federal agencies. The web-site manager 111 also includes software modules that provide customers the ability to see advertising content as it will appear on the panel displays 131 or local terminals 102.

Tools are provided to assist subscribers in scheduling presentation times  
15 and locations for specified advertising or information content. A subscriber, for example, may specify specific times and locations for displaying particular content. The web-site manager 111, in response to processing by the scheduled facility 109, displays the available scheduling for time slots in response to the subscriber's time requests. The web-site manager 111 may further provide e-  
20 mail mailboxes and e-mail addresses to viewers or subscribers. Also, the web-site manager 111 may allocate memory space for purposes of storing messages transmitted to and from the viewers, such as by use of the viewer database 118.

The central server 110 further includes a database manager 112 which may contain a number of database modules. The database manager 112  
25 maintains various types of information for each subscriber to the system, such as by use of the subscriber database 117. This information includes, for example, billing information, customer contact information, messages and/or advertising content details, and the ad content files themselves (e.g., JAVA, APPLLET, GIF files, AVI files, video files, etc.). The ad content files include a message  
30 identification assignment that associates each ad content file to a particular subscriber. Back-up copies of the subscriber-provided ad content is also generated and managed by the database manager 112.

Other data managed by the database manager 112 includes the length of a subscriber's ad content (e.g., video clips). Subscriber-provided content

scheduling information is also managed by the database manager 112. The message scheduling information may include, for example, particular panel site identifiers, message identifiers, a number of contiguous scheduling slots reserved for a particular message, content approval status, and billing rate.

5 Information common to all panel displays, such as system-wide rules governing ad or information content, is also managed by the database manager 112. Information concerning each panel display is also maintained by the database manager 112. The panel display information includes screen size (e.g., physical size, logical size), hours of operation, number of auxiliary video inputs  
10 available, scheduling slot size (e.g., number of seconds per time slot), pricing information, and site-specific rules that may apply. The database manager 112 also coordinates with content validation applications and validates subscriber submittals for general and site-specific rules compliance.

Maintenance applications associated with the database manager 112  
15 include back-up and restoration applications for all system information and customer files. Other maintenance applications include those associated with communication testing of screen controllers and the remote generation of test patterns for panel displays.

The central server 110 connects to an Internet service provider (ISP) 150  
20 via a high-speed/high-bandwidth communication line 151, preferably greater than 1.28 kilobytes per second. Suitable communication lines include ISDN, T1, DSL, T3, DS3, or similar high-speed lines. The subscriber can connect to the web-site by whatever speed lines they have available, including cable modems, DSL, etc. The ISP will connect to the venue sites with high-speed lines, such as  
25 T1, DSL, 128 kbps, DS3, or other high-speed lines.

The central server 110 shown in Fig. 7 is connected to the ISP/routers 150 via a firewall 140. Firewall 140 provides the requisite security features and is connected to the ISP 150 via high-bandwidth communication link 151. An ethernet link 153 may couple the firewall 140 to the central server 110. Each of  
30 the subscribers 101, thus, connect to the central server 110 via the Internet and firewall 140 in accordance with a preferred embodiment of the present invention.

The hardware for the routers/switches 150 is standard equipment obtainable from a number of manufacturers. The ISP 150 can co-locate the servers/firewall 140 and host the web-site with a local on-site central server to

provide the core functions of the system. The ISP 150 can also provide the disk space and scalability needed to handle increased traffic, as well as an increasing number of subscribers and viewers.

The central server 110 connects to individual local servers which service one or more panel displays and local terminals. In addition to this mode of connectivity, Fig. 7 illustrates various other connection configurations. For example, central server 110 may connect to a regional data center or server 120 via an ISP or private connection. The regional server 120 may service a number of local servers within a given region or territory. The regional server 120 may also include router switches 122. Panel displays 131 or their associated local servers 202 may communicate with the regional data 120 via an ethernet link 157. Various video and audio sources may also be coupled to the ethernet link 157. Such sources include, for example, a TV tuner 164, DVD/VHS player 163, MPEG file source 162, or a video camera 161. Regional server 120 also communicates with one or more local terminals 102 via the ethernet link 157.

Another connection configuration shown in Fig. 7 includes the central server 110 coupled via an ISP router 144 to a group superstore network/server 121. The group superstore server 121 represents a system deployment within a store or corporate environment. The group superstore server 121 communicates with each panel display 131 within the store or corporate environment via an ethernet local area network link 158. It is to be understood that the term publicly viewable display/location or variation of these terms refers to a display of location that is viewable/accessible by more than one person, such as by a group of persons, irrespective of whether such display is located at a publicly accessible location (e.g., store) or a private location (e.g., corporate location).

Another connectivity configuration between the central server 110 and panel displays 131 includes a private network 146 and a group hotel network or server 123. The group hotel network 123 may communicate with individual panel displays 131 via an ethernet or a wide area network link 159.

Figure 8 illustrates a local site network system deployment in accordance with an embodiment of the present invention. In accordance with this configuration, central server 110 communicates with a regional server 120 over a T1 or other high-bandwidth communication line 201. The regional data center server 120, which typically includes routers and switches, communicates with

one or more local servers 202 via a T1 or other high-bandwidth communication line 203. The local server 202 depicted in Fig. 8 is shown to include a host interface 210, a TV tuner 211, a DVD player 212, a VHS player 213, a video camera 214, a scaler 215, and a data router 216. The local server 202 communicates with individual large panel displays 131 via an ethernet (LAN/WAN) link 205. The regional data center server 120 also communicates with one or more local terminals 102 via an ethernet wired or wireless link 207. Each of the local terminals 102, which may be situated in a kiosk, may include a touch screen 220, monitor and keyboard 221, audio listening device 222, and printer 223.

Another aspect of the present invention, as is best shown in Fig. 11, concerns the operation of a master venue/screen controller 404, which is provided at each venue. A venue refers to a general location of one or more panel display sites, which may include one or more local terminals/kiosks. The master controller 404 of a given venue communicates with the central server 110 or regional sever 120 via a dedicated high-speed/high-bandwidth communication line, such as a T1 communication line 403. Software modules for various applications include a host communications module, including message content scheduler as directed by the central system.

A screen manager 114 and data router 115 at the central server 110 cooperates with the master venue controller 404, which may also include a local screen manager, to present subscriber content on one or more displays coupled to the master controller at the designated times. Cluster controllers and schedulers, as well as multiple data feed controllers, are also components of the master controller 404 at each venue. Local and remote access to other audio/video equipment, such as a video camera 161, DVD/VHS player 163, and TV tuner 164 as shown in Fig. 1, as well as a computer and audio speakers, is also managed by the master controller 404.

Figure 11 illustrates an embodiment of a cluster configuration 400 in which a regional data center or server 120 communicates with a number of master controllers 404. Each of the master controllers 404 are coupled to the regional server 120 via a venue server 402. The venue server 402 may include a firewall and various routers/switches. Communication between the regional server 120 and the venue server 402 may be facilitated by a dedicated

communication link 403 or via an Internet/ISP link 142. Each of the master controllers 404 are coupled to one or more slave display panels 131 and one or more local terminals 102. Each master controller 404 is responsible for coordinating the activities of its associated slave panels 131 and local terminals 102.

Figure 12 illustrates an independent corporate network configuration 500 according to another embodiment of the present invention by which a corporate data center/server 504 coordinates the activities between a vendor site data center/server 502 and one or more corporate site data centers/servers 506. The corporate data server 504 may further communicate with one or more customer site data centers/servers 540. The vendor site server 502, for example, may be coupled to one or more large terminals 522 and one or more customer service terminals 524. Various warehouse terminals 526, production terminals 528, and shipping terminals 530 may be coupled to the vendor site server 502. The vendor site server 502 typically communicates with the corporate data server 504 via an ISP/Internet connection 142.

The corporate data center/server 504 also communicates with one or more corporate site data centers/servers 506 via an ISP/Internet link 142. Each of the corporate site data centers/servers 506 coordinates the activities of one or more large displays 131, local terminals 102, individual user-interfaces 508, and one or more production user-interfaces 510.

The customer site data center/server 540 coordinates the activities of one or more large displays 131 and one or more buyer's terminals 542. Various engineering terminals 544 and marketing/sales terminals 546 are also connected with the customer site data center/server 540.

Figure 13 illustrates a community portal concept 600 according to an embodiment of the present invention. As shown in Fig. 13, an advertising and information dissemination system 602 is deployed in a public venue, such as an airport, mall, or grocery store. A venue controller 605 coordinates the activities of the network, including one or more large displays 131. Various local terminals 102 are shown distributed within the public venue 602 for each of a number of mall subscribers 610. A typical mall subscriber may be a store that wishes to draw attention to its merchandise within the mall environment.

Figure 13 shows a sphere 600 surrounding the venue 602 which represents a sphere of reach or influence with respect to the local community surrounding the venue 602. For example, this sphere of reach or influence 601 may encompass a number of businesses 603, each of which may have an associated server 607 and ISP connection 142.

Figure 14 illustrates a corporate venue, which may be a physical store or facility 702, within which is provided a venue data center 720. Figure 14 depicts an independent corporate portal concept in accordance with another embodiment of the present invention. The physical facility 702 includes a venue data center 720 which may further include a product database 726 and a buyer/user database 728. The product database 726 includes information concerning products, prices, manufacturers, quantities, and fulfillment requirements. The buyer/user database 728 may include information concerning mailboxes, profiles, buying habits, products used, requests, fulfillments, and feedback. An area of reach or service 705 is shown surrounding the corporate venue 702, which includes a number of users and buyers 712, 710. Each of the users and buyers 712, 710 have an associated user terminal 701 and ISP connection 142.

Turning now to Fig. 9, there is illustrated a large panel display in accordance with an embodiment of the present invention. The large panel display shown in Fig. 9 includes a video data region 301 on which motion video advertising or other information content is played. Large panel display 131 further includes a number of audio speakers 303 and a blacklit display region 305. The blacklit display region 305 includes sponsor regions 306 which provide for the display of sponsor identification and related advertising information, for example.

The large panel screen shown in Fig. 10 illustrates a split screen configuration for supporting multiple data streams. Panel display 131 shown in Fig. 10 includes a TV broadcast region 301 that provides for the presentation of live broadcast feeds. A video camera feed region 310 allows for the presentation of live video camera images. A subscriber video data region 312 provides for the presentation of subscriber-provided motion video data. A special message 314 region may be included to provide a location for presenting any number of specialized messages. A news service feed region 307 may also be included in the large panel display 131. The news service feed region 307 may provide for

the display of financial, sports, community, and general news information, include live broadcast feeds from news networks. A backlit display region 305 may also be included for presenting various sponsor-related advertisements.

Another embodiment of the present invention concerns a programmed  
5 product which includes a signal-bearing medium embodying a program of machine-readable instructions, executable by a digital processor to perform method steps to effect advertising and information dissemination according to the principles of the present invention. The signal-bearing media may include, for example, random access memory (RAM) provided within a computer or  
10 server.

Alternatively, the instructions may be contained in other signal-bearing media, such as one or more magnetic data storage diskettes, direct access data storage disks (e.g., a conventional hard drive or a RAID array), magnetic tape, alterable or non-alterable electronic read-only memory (e.g., EEPROM, ROM),  
15 flash memory, optical storage devices (e.g., CDROM or WORM), signal-bearing media including transmission media such as digital, analog, and communication links and wireless, and propagated signal media. In an illustrative embodiment, the machine-readable instructions may constitute lines of compiled "C" language code or "C++" object-oriented code.

20 The foregoing description of the various embodiments of the invention has been presented for the purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed. Many modifications and variations are possible in light of the above teaching. It is intended that the scope of the invention be limited not by this detailed  
25 description, but rather by the claims appended hereto.

## CLAIMS

What is claimed is:

- 5           1.     A method for distributing advertising and other  
information, comprising:  
            receiving subscriber-provided information representative of  
advertising or other information from one or more subscribers;  
            receiving, from one or more of the subscribers, a distribution time  
10     request representative of a requested time or frequency for distributing  
subscriber-provided information;  
            receiving, from one or more of the subscribers, a location request  
representative of a location of one or more destinations for receiving subscriber-  
provided information; and  
15           scheduling distribution times and locations for distributing the  
received subscriber-provided information to the destinations using the received  
presentation time and location requests.
- 20           2.     The method of claim 1, wherein the subscriber-provided  
information is encrypted, and the method further comprises decrypting the  
encrypted subscriber-provided information at the destinations.
- 25           3.     The method of claim 1, further comprising providing, to  
requesting subscribers in substantially real-time, status information concerning  
selected destinations.
- 30           4.     The method of claim 1, wherein the distribution location requests  
comprise location information associated with one or more demographic profiles  
selected by requesting subscribers.
5.     The method of claim 4, wherein scheduling the distribution times  
comprises scheduling distribution times for distributing the subscriber-provided  
information to selected destinations selected in accordance with the demographic  
profiles.



6. A method for distributing advertising and other information for presentation on publicly viewable displays, comprising:

- receiving subscriber-provided information representative of  
5 advertising or other information from one or more subscribers;
- receiving, from one or more of the subscribers, a presentation  
time request representative of a requested time or frequency for displaying  
subscriber-provided information associated with each subscriber;
- receiving, from one or more of the subscribers, a location request  
10 representative of a location of one or more of the publicly viewable displays; and
- scheduling presentation times and locations for presenting the  
received subscriber-provided information on selected displays using the received  
presentation time and location requests.

15 7. The method of claims 1 and 6, wherein the selected subscriber-provided information comprises one or more of textual, graphical, animation, motion video, audio or live broadcast information.

20 8. The method of claims 1 and 6, wherein scheduling the presentation times comprises resolving conflicts arising from conflicting presentation time and/or location requests.

25 9. The method of claims 1 and 6, wherein receiving the presentation time and location requests comprises receiving the presentation time and location requests via an Internet or world-wide web interface.

30 10. The method of claim 6, further comprising providing, to requesting subscribers in substantially real-time, status information concerning selected displays.

11. The method of claims 1 and 6, further comprising verifying that the subscriber-provided information meets one or more pre-established standards.

12. The method of claims 1 and 6, further comprising providing subscriber access to demographic data concerning one or more geographic locations or regions.

5 13. The method of claim 6, wherein the presentation location requests comprise location information associated with one or more demographic profiles selected by requesting subscribers.

10 14. The method of claim 13, wherein scheduling the presentation times comprises scheduling presentation times for displaying the subscriber-provided information on selected displays provided at geographic locations selected in accordance with the demographic profiles.

15 15. A method for distributing advertising and other information, comprising:  
accessing, by one or more subscribers, buyer demographic information associated with geographic locations provided with one or more publicly viewable displays, the buyer demographic information assisting a particular subscriber in identifying buyers susceptible to the particular  
20 subscriber's information;

receiving, from each of the subscribers, presentation time and location requests for displaying subscriber-provided information on selected displays; and

25 generating, in response to the received presentation time and location requests, a schedule of available time slots for displaying subscriber-provided information on selected displays in accordance with the buyer demographic information.

30 16. The method of claims 1, 6, and 15, further comprising providing, to a requesting subscriber, access to one or more application modules to facilitate preparation of the requesting subscriber's subscriber-provided information.

17. The method of claim 15, wherein the presentation time requests are representative of a requested frequency of displaying the subscriber-provided information over a specified duration of a day, month, or year.
- 5 18. The method of claim 15, wherein the buyer demographic information assists a particular subscriber in developing one or more buyer profiles, each of the buyer profiles identifying buyers susceptible to the subscriber-provided information.
- 10 19. The method of claim 15, wherein the buyer demographic information comprises information concerning a number of buyers associated with each of a plurality of demographic categories that are likely to be present at selected display locations.
- 15 20. The method of claim 15, wherein the buyer demographic information comprises information concerning a number of buyers associated with each of a plurality of demographic categories that are likely to be present at selected display locations as a function of time.
- 20 21. The method of claim 15, wherein the subscriber-provided information comprises advertising and other information associated with one or more businesses situated near the selected displays.
- 25 22. The method of claim 15, wherein the schedule of available time slots is established to maximize exposure of the particular subscriber's information to identified buyers susceptible to the particular subscriber's information.
- 30 23. The method of claim 15, wherein the schedule of available time slots is established to customize the particular subscriber's media campaign.

24. The method of claim 15, further comprising providing, to a requesting subscriber, access to one or more application modules to facilitate preparation of the requesting subscriber's subscriber-provided information for display on selected displays.

25. A system for distributing advertising and other information, comprising:

a plurality of user-access facilities each coupled to a network connection, each of the user-access facilities generating a presentation time request representative of a requested time or frequency for displaying subscriber-provided information associated with each subscriber and generating a location request representative of a location of one or more publicly viewable displays;

a central server coupled to each of the user-access facilities via the network connections and receiving the generated presentation time and location requests; and

a scheduling facility coupled to the central server, the scheduling facility scheduling presentation times and locations for presenting subscriber-provided information on selected displays using the received presentation time and location requests.

26. The system of claim 25, wherein the scheduling facility resolves conflicts arising from conflicting presentation time and/or location requests.

27. The system of claim 25, wherein the scheduling facility schedules presentation times on the basis of time slots.

28. The system of claim 27, wherein a time slot defines a predetermined duration of information presentation time.

29. The system of claim 25, wherein the scheduling facility schedules presentation times on the basis of time slots ranging from about 1 second to about 5 seconds in duration.

30. The system of claim 25, wherein the scheduling facility schedules presentation times on the basis of blocks of information data.

31. The system of claim 25, wherein the user-access facilities transmit subscriber-provided information to the central server.

32. The system of claim 25, wherein the user-access facilities comprise a world-wide web site.

33. The system of claim 25, wherein the user-access facilities are coupled to the central server via a firewall.

34. The system of claim 25, wherein the subscriber-provided information comprises one or more of textual, graphical, animation, photographic, motion video, audio or live broadcast information.

35. The system of claim 25, wherein the central server further verifies that the subscriber-provided information meets one or more pre-established standards.

20

36. The system of claim 25, wherein the central server is coupled to a database which stores demographic data, each of the user-access facilities having access to the database.

25

37. The system of claim 25, wherein the user-access facilities generate one or more buyer profiles that define buyer characteristics or demographics, further wherein the scheduling facility schedules the presentation times for displaying the subscriber-provided information on selected displays provided at geographic locations selected in accordance with the buyer profiles.

30

38. The system of claim 25, wherein the user-access facilities access the central server via a home or business network connection.

39. The system of claim 25, wherein the central server generates one or more reports associated with scheduling of the subscriber-provided information for presenting subscriber-provided information on selected displays.

5       40. The system of claim 25, further comprising:  
one or more panel displays provided for public viewing at each of  
a plurality of geographically distinct locations; and  
a plurality of local servers, each of the local servers coupled to  
one or more of the panel displays within one of the geographically distinct  
10 locations, the central server communicating with the local servers to obtain panel  
display status information therefrom.

41. The system of claim 25, further comprising a plurality of regional  
servers, each of the regional servers coupled to the central server and one or  
15 more local servers situated within a prescribed geographical region.

42. A computer readable medium embodying program instructions  
for distributing advertising and other information, comprising:  
receiving subscriber-provided information representative of  
20 advertising or other information from one or more subscribers;  
receiving, from one or more of the subscribers, a distribution time  
request representative of a requested time or frequency for distributing  
subscriber-provided information;  
receiving, from one or more of the subscribers, a location request  
25 representative of a location of one or more destinations for receiving subscriber-  
provided information; and  
scheduling distribution times and locations for distributing the  
received subscriber-provided information to the destinations using the received  
presentation time and location requests.

30       43. A computer readable medium embodying program instructions  
for distributing advertising and other information, comprising:  
accessing, from one or more subscribers, buyer demographic  
information associated with geographic locations provided with one or more

publicly viewable displays, the buyer demographic information assisting a particular subscriber in identifying buyers susceptible to the particular subscriber's information;

receiving, from each of the subscribers, presentation time and  
5 location requests for displaying subscriber-provided information on selected displays; and

generating, in response to the received presentation time and location requests, a schedule of available time slots for displaying subscriber-provided information on selected displays in accordance with the buyer  
10 demographic information.

44. A method for displaying advertising and other information, comprising:

generating, for one or more subscribers, presentation time and  
15 location requests for displaying, at prescribed times and dates, subscriber-provided information on selected publicly viewable displays situated at a plurality of geographically distinct locations;

scheduling presentation times for displaying the subscriber-provided information on the selected displays in response to the generated  
20 presentation time and location requests; and

displaying, according to the scheduled presentation times, the subscriber-provided information on the selected publicly viewable displays.

45. The method of claim 44, wherein the selected subscriber-provided  
25 information comprises one or more of textual, graphical, animation, photographic, motion video or audio information.

46. The method of claim 44, wherein receiving the presentation time and location requests comprises receiving the presentation time and location  
30 requests via a network connection.

47. The method of claim 44, wherein receiving the presentation time and location requests comprises receiving the presentation time and location requests via an Internet or world-wide web interface.

48. The method of claim 44, further comprising providing, to requesting subscribers in substantially real-time, status information concerning selected displays.

5

49. The method of claim 44, further comprising displaying information in addition to subscriber-provided information on selected displays, wherein the information in addition to the subscriber-provided information comprises one or more of textual, graphical, animation, photographic, motion video, audio, or live broadcast information.

10

50. The method of claim 44, wherein the presentation time requests are representative of a requested frequency of displaying the subscriber-provided information over a specified duration of a day, month, or year.

15

51. The method of claim 44, further comprising verifying that the subscriber-provided information meets one or more pre-established standards prior to scheduling presentation times for displaying the subscriber-provided information or prior to displaying the subscriber-provided information.

20

52. The method of claim 44, wherein the presentation location requests comprise location information associated with one or more demographic profiles selected by requesting subscribers, and scheduling the presentation times comprises scheduling presentation times for displaying the subscriber-provided information on selected displays provided at geographic locations selected in accordance with the demographic profiles.

25

53. The method of claim 44, further comprising displaying, according to the scheduled presentation times or in response to a home user command, the subscriber-provided information or selected subscriber-provided information on a display situated at a user's home.

30



54. The method of claim 44, further comprising generating one or more reports associated with displaying of the subscriber-provided information, wherein the reports comprise billing reports, accounting reports or proof of displaying reports associated with displaying of the subscriber-provided information.

55. A method for displaying advertising and other information, comprising:  
displaying, according to a schedule of presentation times,  
subscriber-provided information on one or more selected publicly viewable displays situated at each of a plurality of geographically distinct locations;  
providing a publicly accessible user-interface at some or all of the geographically distinct locations; and  
receiving, from the publicly accessible user-interfaces, user requests associated with particular displayed subscriber-provided information.

56. The method of claim 55, further comprising accessing, using the user-interfaces, product and/or service information associated with particular displayed subscriber-provided information or with a particular subscriber.

57. The method of claim 55, further comprising receiving user requests associated with particular displayed subscriber-provided information or with a particular subscriber from a user-interface other than the publicly accessible user-interfaces.

58. The method of claim 55, further comprising providing, using the publicly accessible user-interfaces, responses to the user requests associated with particular displayed subscriber-provided information, the responses comprising one or more of textual, graphical, animation, live broadcast, motion video or audio responses provided using the publicly accessible user-interfaces.

59. The method of claim 55, wherein the user requests comprise user requests for access to the Internet or other network or network service.

60. The method of claim 55, wherein receiving user requests comprises receiving user orders for products or services associated with the particular displayed subscriber-provided information.

5 61. The method of claim 55, further comprising providing, using the publicly accessible user-interfaces, confirmation of the received user orders.

62. The method of claim 55, wherein receiving user requests comprises receiving user profiles defining users product/services needs.

10 63. The method of claim 62, further comprising providing, using the publicly accessible user-interfaces, the Internet or other network, additional information consistent with the user profiles.

15 64. The method of claim 55, further comprising establishing user accounts using the publicly accessible user-interfaces, the Internet or other network.

20 65. A system for displaying advertising and other information, comprising:  
one or more panel displays provided for public viewing at each of a plurality of geographically distinct locations;

25 a plurality of local servers, each of the local servers coupled to one or more of the panel displays within one of the geographically distinct locations;

a central server coupled to each of local servers; and

30 a user-access facility, coupled to the central server, that permits subscribers to generate presentation time and location requests for displaying, at prescribed times and dates, subscriber-provided information on selected panel displays; the central server scheduling presentation times for displaying the subscriber-provided information on the selected displays in response to the generated presentation time and location requests, and cooperating with the local servers to display, according to the scheduled presentation times, the subscriber-provided information on the selected publicly viewable displays.

66. The system of claim 65, further comprising a plurality of regional servers, each of the regional servers coupled to one or more local servers situated within a prescribed geographical region.

67. The system of claim 65, wherein the panel displays are coupled to the local servers via a hardwire or wireless connection.

68. The system of claim 65, wherein the user-access facility comprises a world-wide web site.

69. The system of claim 65, wherein each of the panel displays comprises a local control system that cooperates with a local server to coordinate displaying of the subscriber-provided information on each of the panel displays.

70. The system of claim 69, wherein each of the local control systems comprises a local controller coupled to local memory, a mass storage device, and a high-speed communication interface.

71. The system of claim 69, wherein each of the local control systems comprises a local controller coupled to local memory, a video controller, a hard disk drive, and a high-speed communication interface.

72. The system of claim 65, wherein the user-access facilities are coupled to the central server via a firewall.

73. The system of claim 65, wherein the selected subscriber-provided information comprises one or more of textual, graphical, animation, photographic, motion video or audio information.

74. The system of claim 65, wherein the central server resolves conflicts arising from conflicting presentation time and/or location requests.

75. The system of claim 65, wherein the central server provides, to requesting subscribers in substantially real-time, status information concerning selected displays via the user-access facilities.

5 76. The system of claim 65, wherein the central server further coordinates with the local servers to display information in addition to subscriber-provided information on selected panel displays.

10 77. The system of claim 65, wherein the information in addition to the subscriber-provided information comprises textual, graphical, animation, photographic, motion video, audio, or live broadcast information.

15 78. The system of claim 65, wherein the central server further verifies that the subscriber-provided information meets one or more pre-established standards prior to scheduling presentation times for displaying the subscriber-provided information or prior to displaying the subscriber-provided information.

20 79. The system of claim 65, wherein the presentation location requests comprise location information associated with one or more demographic profiles selected by requesting subscribers, and the central server schedules the presentation times for displaying the subscriber-provided information on selected displays provided at geographic locations selected in accordance with the demographic profiles.

25 80. The system of claim 65, wherein the central server is accessible to a user via a home or business network connection, the central server coordinates displaying, according to the scheduled presentation times or in response to a home user command, the subscriber-provided information or selected subscriber-provided information on a display situated at a user's home or business via the  
30 home or business network connection.

81. The system of claim 65, wherein the central server generates one or more reports associated with displaying of the subscriber-provided information, the reports comprising billing reports, accounting reports or proof

of displaying reports associated with displaying of the subscriber-provided information.

82. A system for displaying advertising and other information,  
5 comprising:  
one or more panel displays provided for public viewing at each of  
a plurality of geographically distinct locations;  
one or more public user-interfaces provided at one or more of the  
geographically distinct locations;  
10 a plurality of local servers, each of the local servers coupled to  
one or more of the panel displays and public user-interfaces within one of the  
geographically distinct locations;  
a central server coupled to each of local servers; and  
a user-access facility, coupled to the central server, that permits  
15 subscribers to generate presentation time and location requests for displaying, at  
prescribed times and dates, subscriber-provided information on selected panel  
displays; the central server cooperating with the local servers to display,  
according to a schedule of presentation times, subscriber-provided information  
on one or more selected publicly viewable displays situated at each of a plurality  
20 of geographically distinct locations, the central server further receiving, from the  
public user-interfaces, user requests associated with particular displayed  
subscriber-provided information.

83. The system of claim 82, wherein the public user-interfaces  
25 provide access to product and/or service information associated with particular  
displayed subscriber-provided information or product and/or service information  
associated with a particular subscriber.

84. The system of claim 82, wherein the central server receives user requests and transmits responses to received user requests associated with particular displayed subscriber-provided information or with a particular subscriber from a user-interface other than the public user-interfaces, the responses comprising one or more of textual, graphical, animation, live broadcast, motion video or audio responses provided using the public user-interfaces.

85. The system of claim 82, wherein the central server is coupled to a billing facility that processes user orders for products or services associated with the particular displayed subscriber-provided information or with a particular subscriber.

86. The system of claim 82, wherein the central server establishes user accounts in response to user requests received from the public user-interfaces, the Internet or other network connection.

87. A computer readable medium embodying program instructions for displaying advertising and other information, comprising:  
generating, for one or more subscribers, presentation time and location requests for displaying, at prescribed times and dates, subscriber-provided information on selected publicly viewable displays situated at a plurality of geographically distinct locations;  
scheduling presentation times for displaying the subscriber-provided information on the selected displays in response to the generated presentation time and location requests; and  
displaying, according to the scheduled presentation times, the subscriber-provided information on the selected publicly viewable displays.  
audio information.

30

88. A computer readable medium embodying program instructions for displaying advertising and other information, comprising:

- displaying, according to a schedule of presentation times,  
subscriber-provided information on one or more selected publicly viewable  
displays situated at each of a plurality of geographically distinct locations;  
providing a publicly accessible user-interface at some or all of the  
5 geographically distinct locations; and  
receiving, from the publicly accessible user-interfaces, user  
requests associated with particular displayed subscriber-provided information.

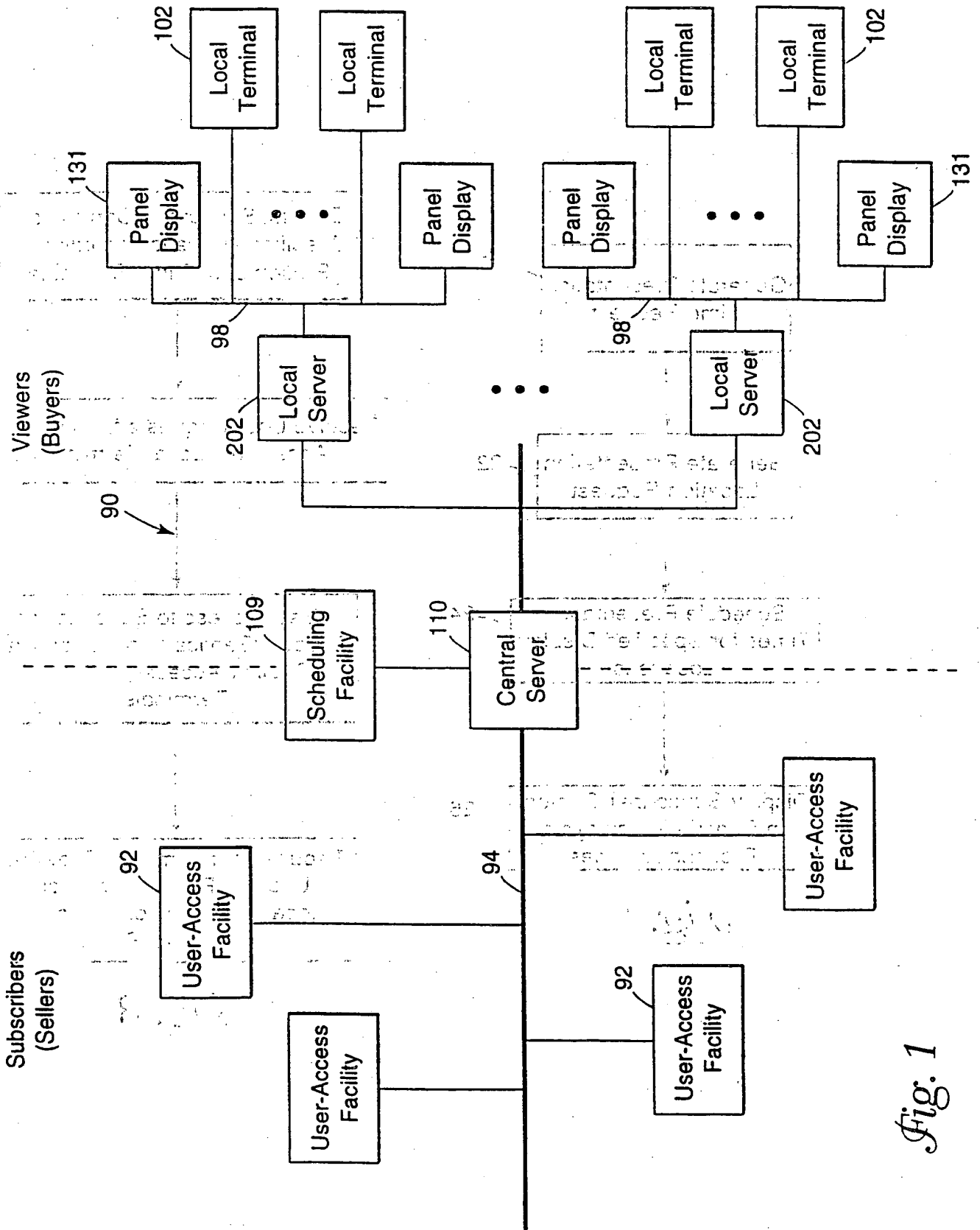
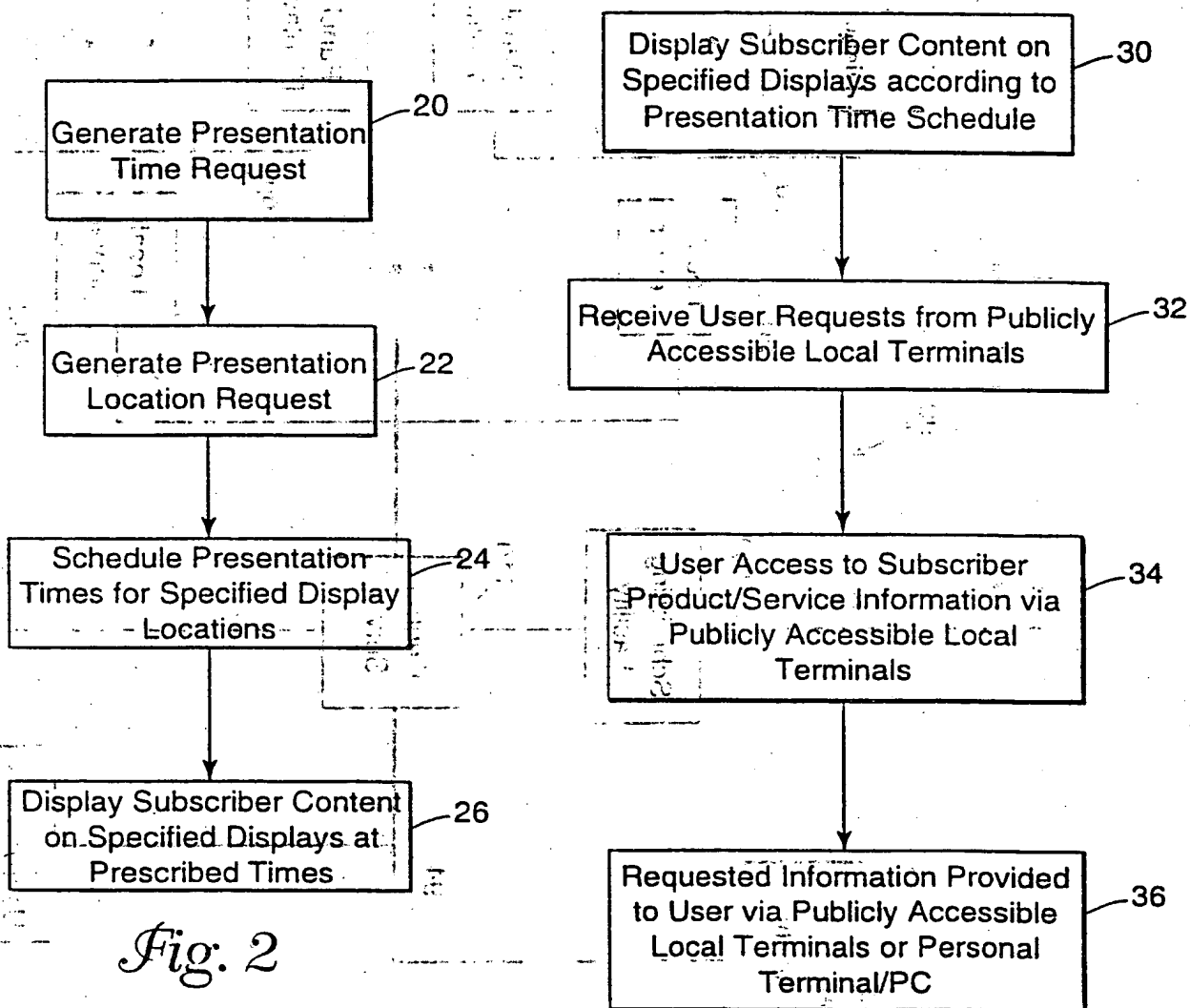
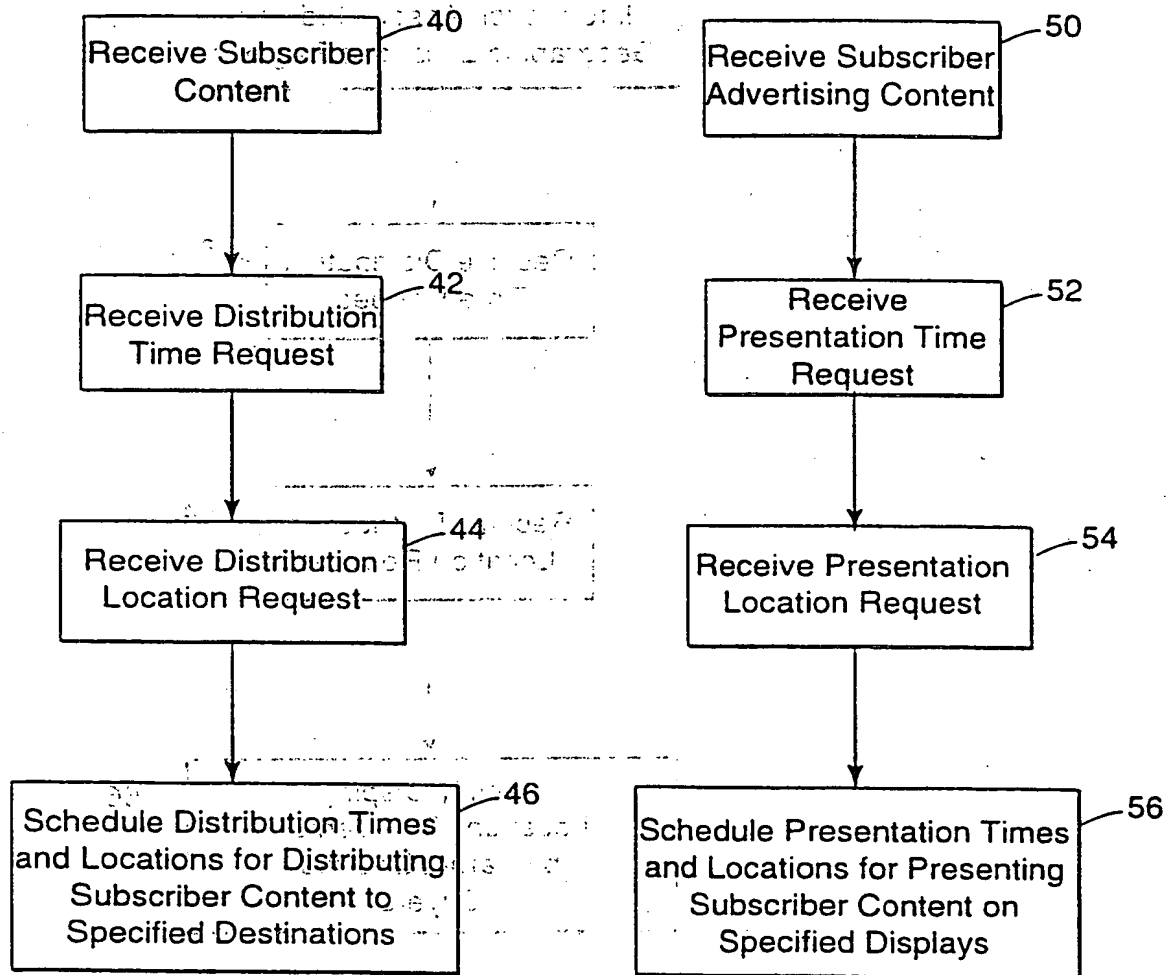


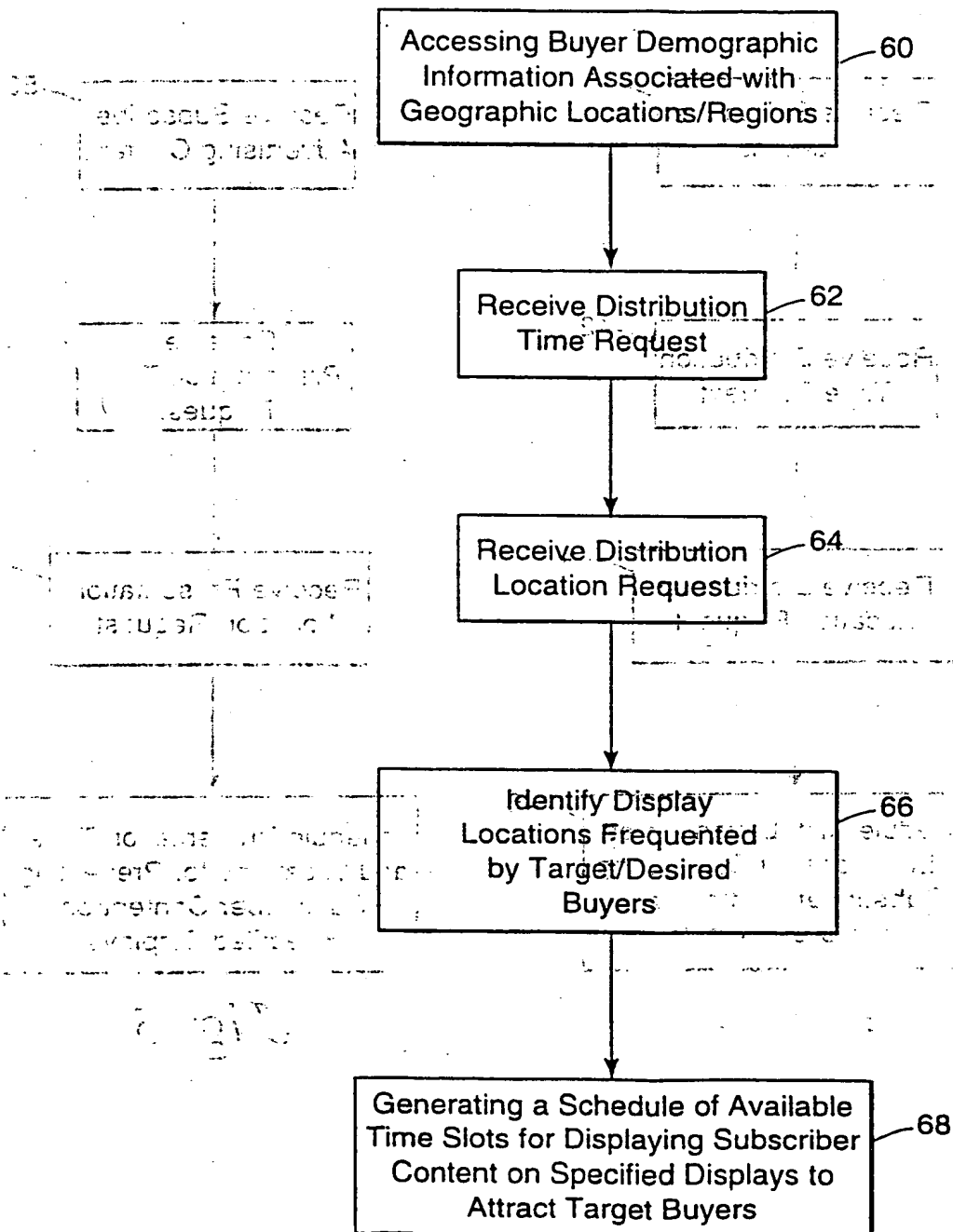
Fig. 1

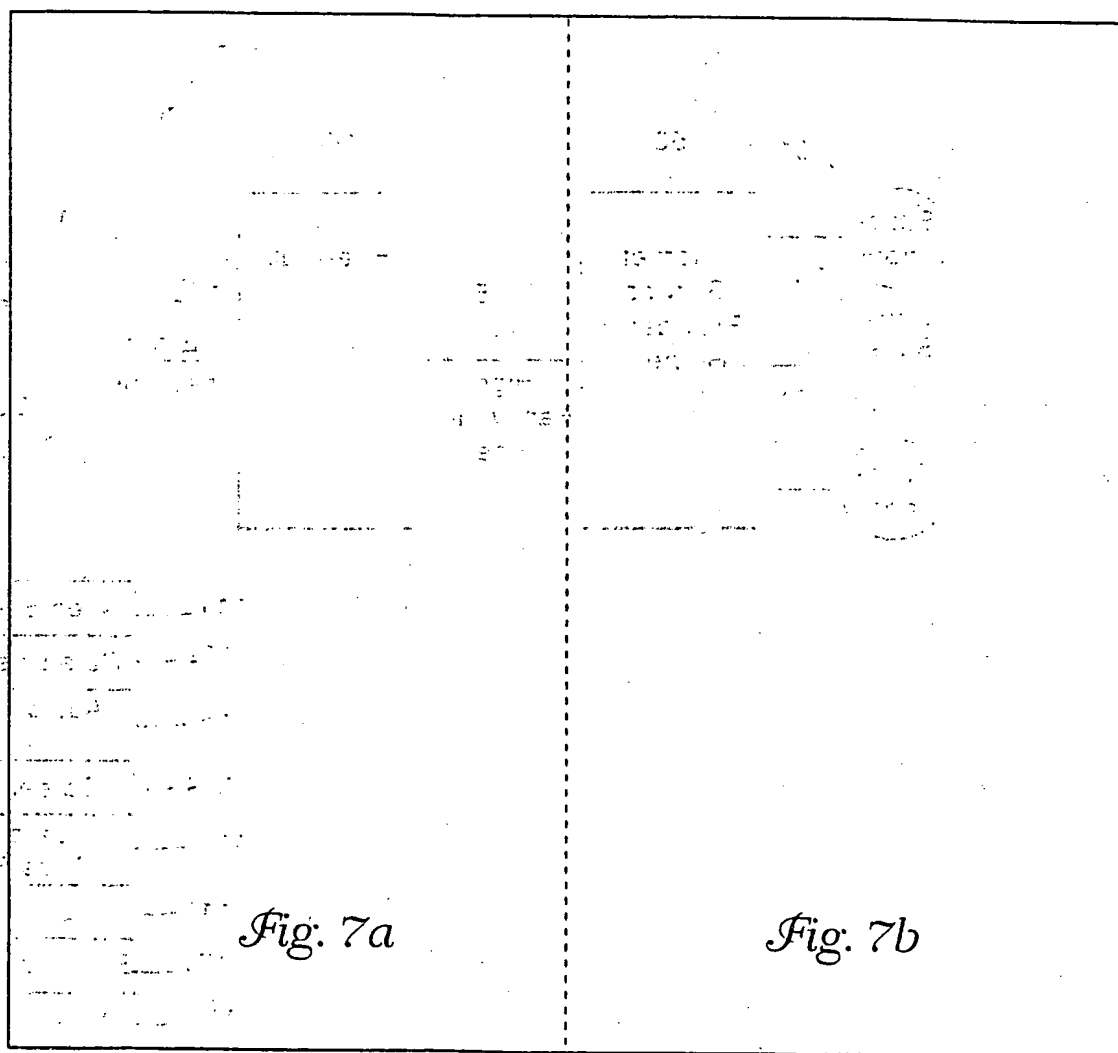


*Fig. 2**Fig. 3*

*Fig. 4**Fig. 5*

4/13

*Fig. 6*

*Fig. 7*

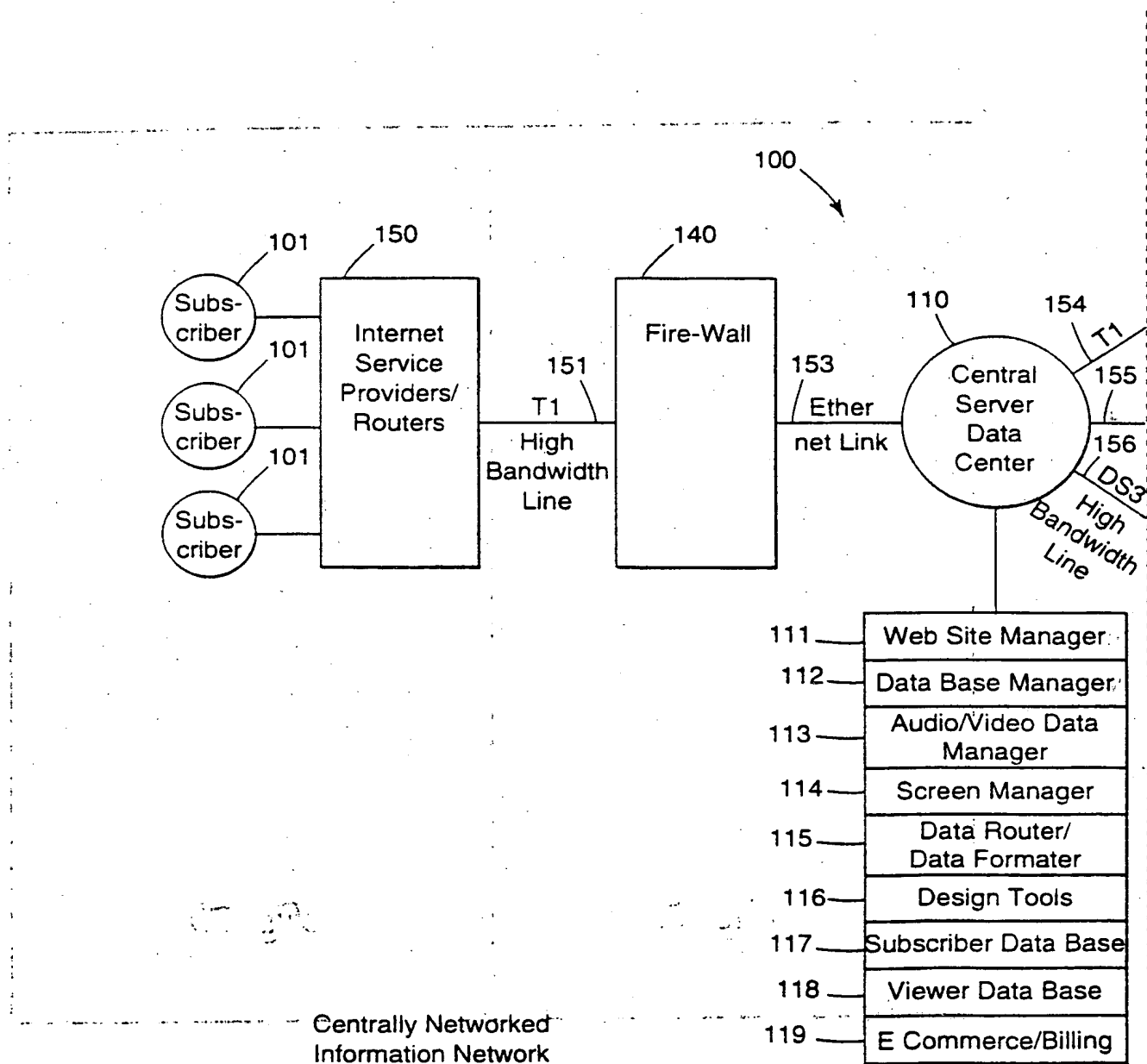


Fig. 7a

7/13

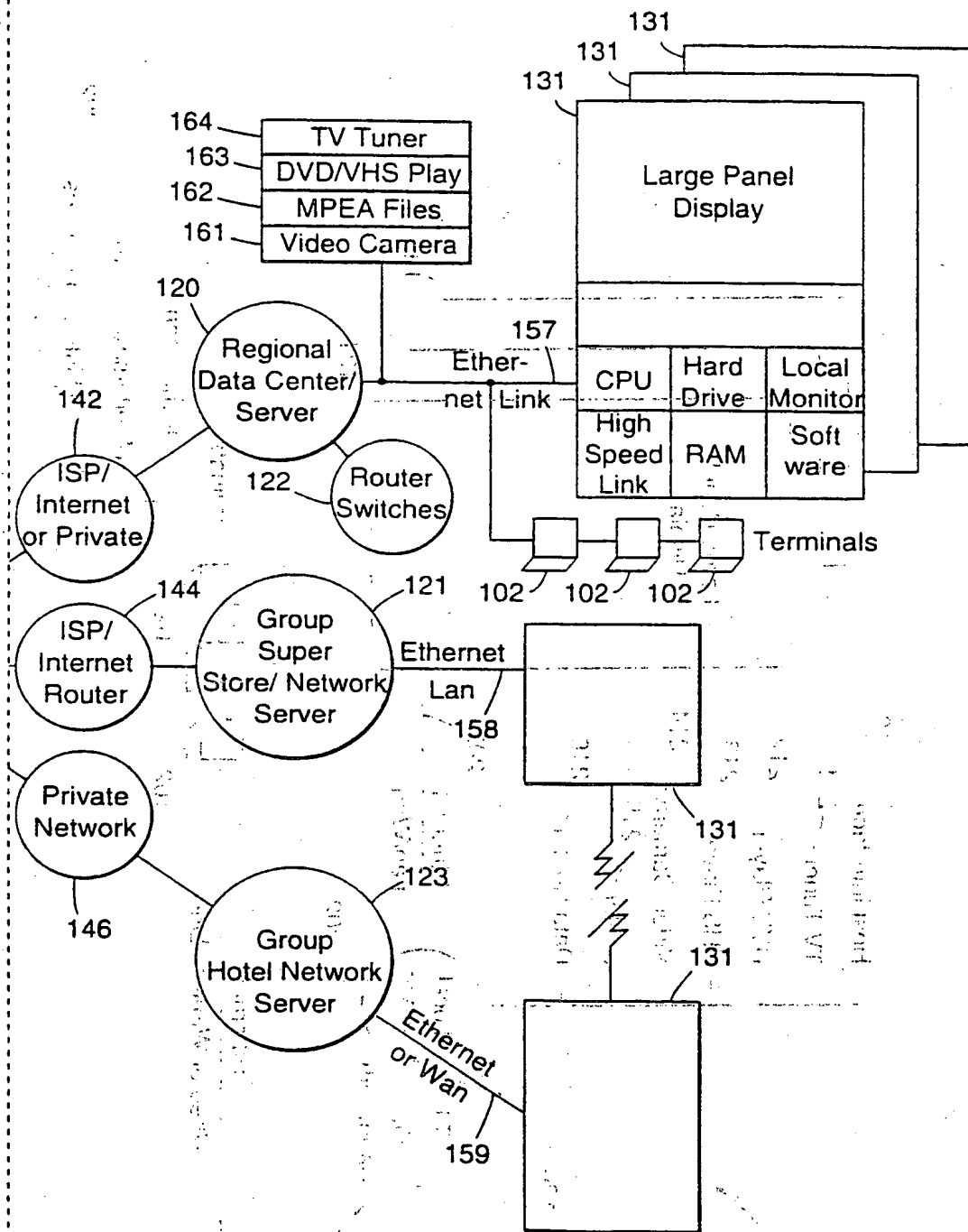


Fig. 7b

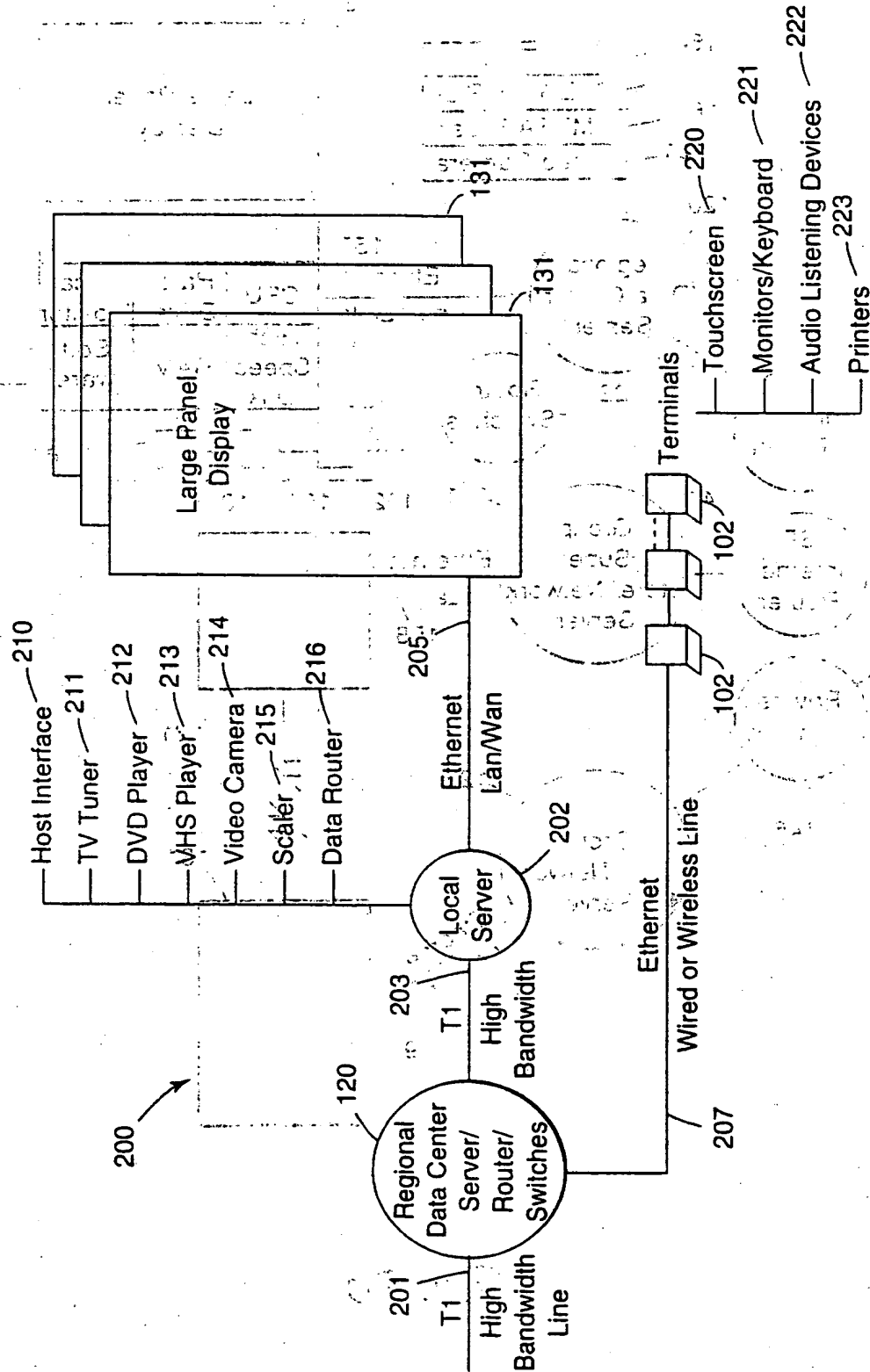


Fig. 8

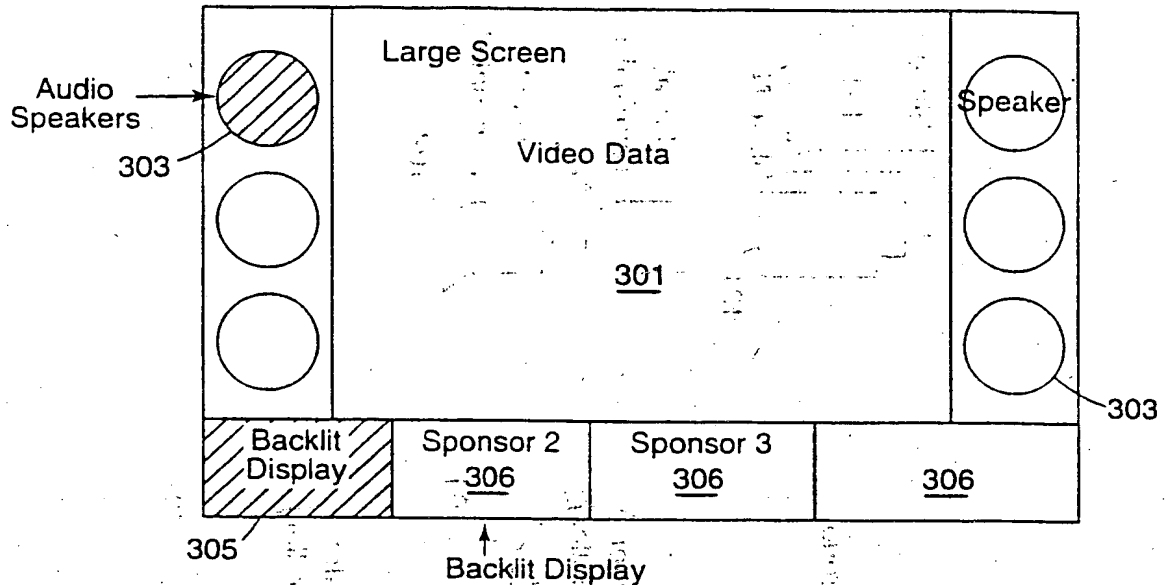
Local Site Network System

9/13

Fig. 9

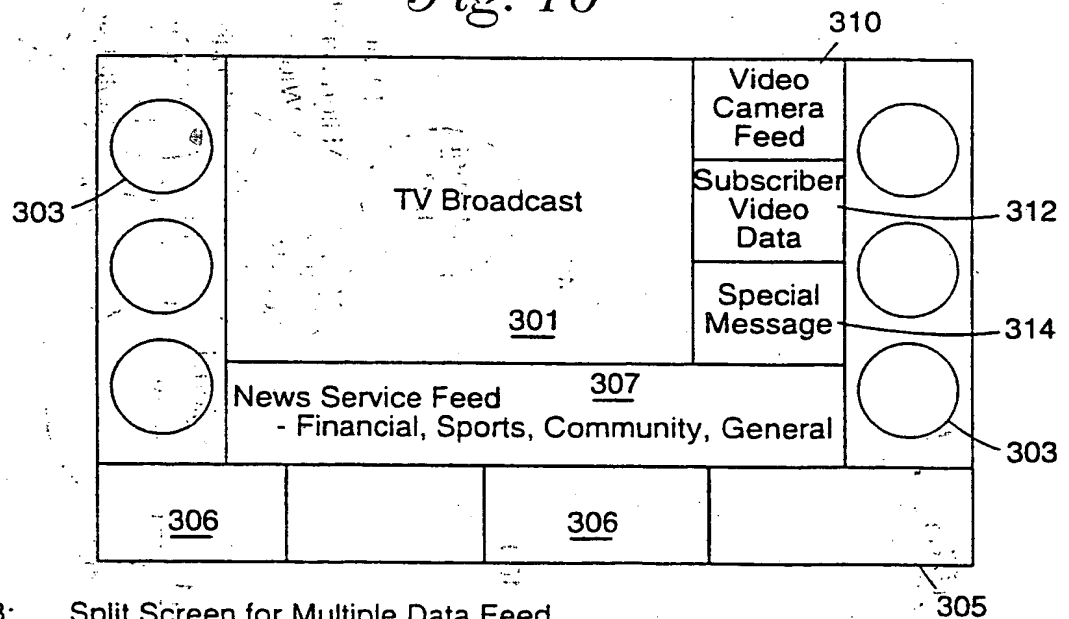
131

Screen Configurations



3A: \_\_ Full Screen Dedicated to Subscriber's Data.

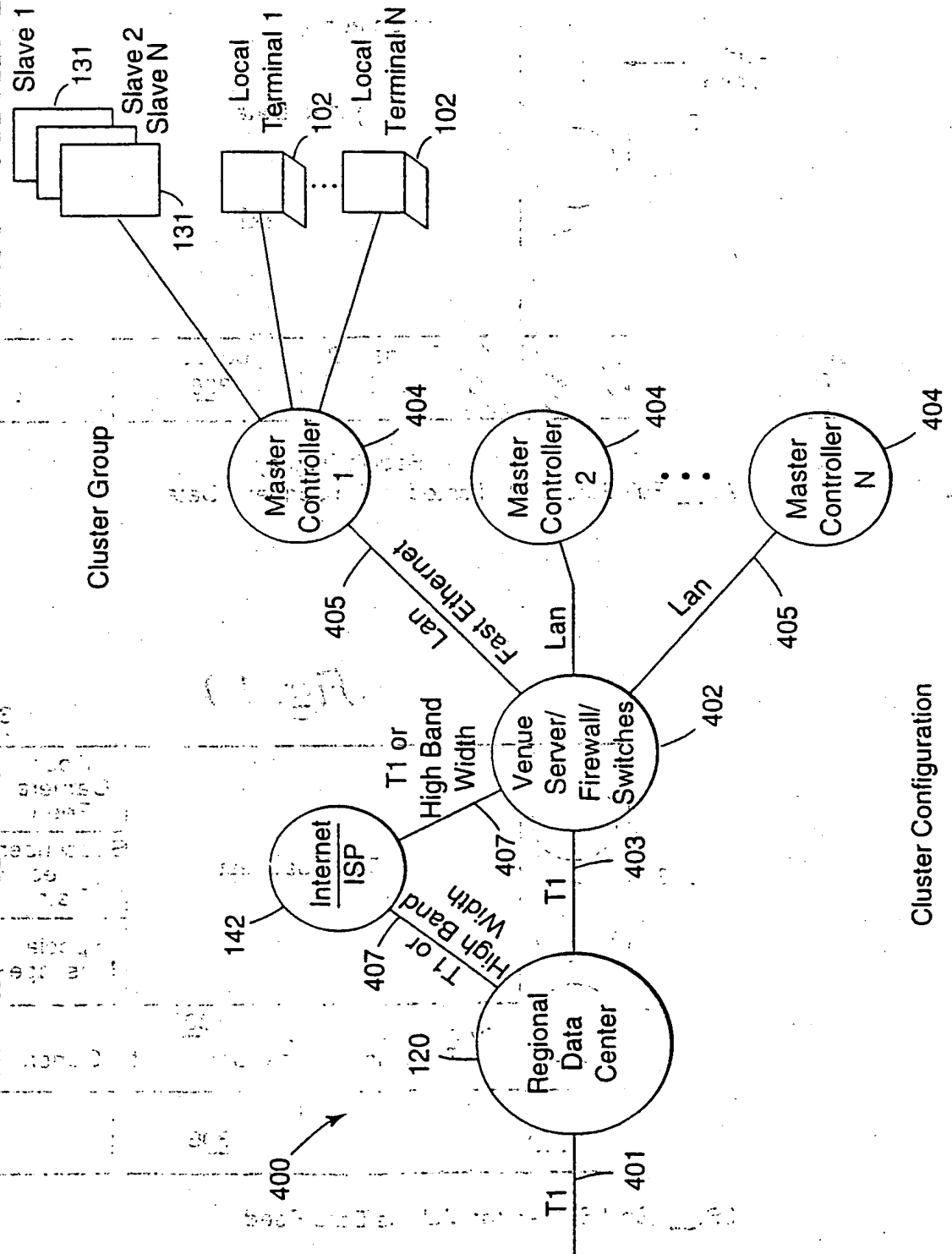
Fig. 10



3B: \_\_ Split Screen for Multiple Data Feed.



Fig. 11



11/13

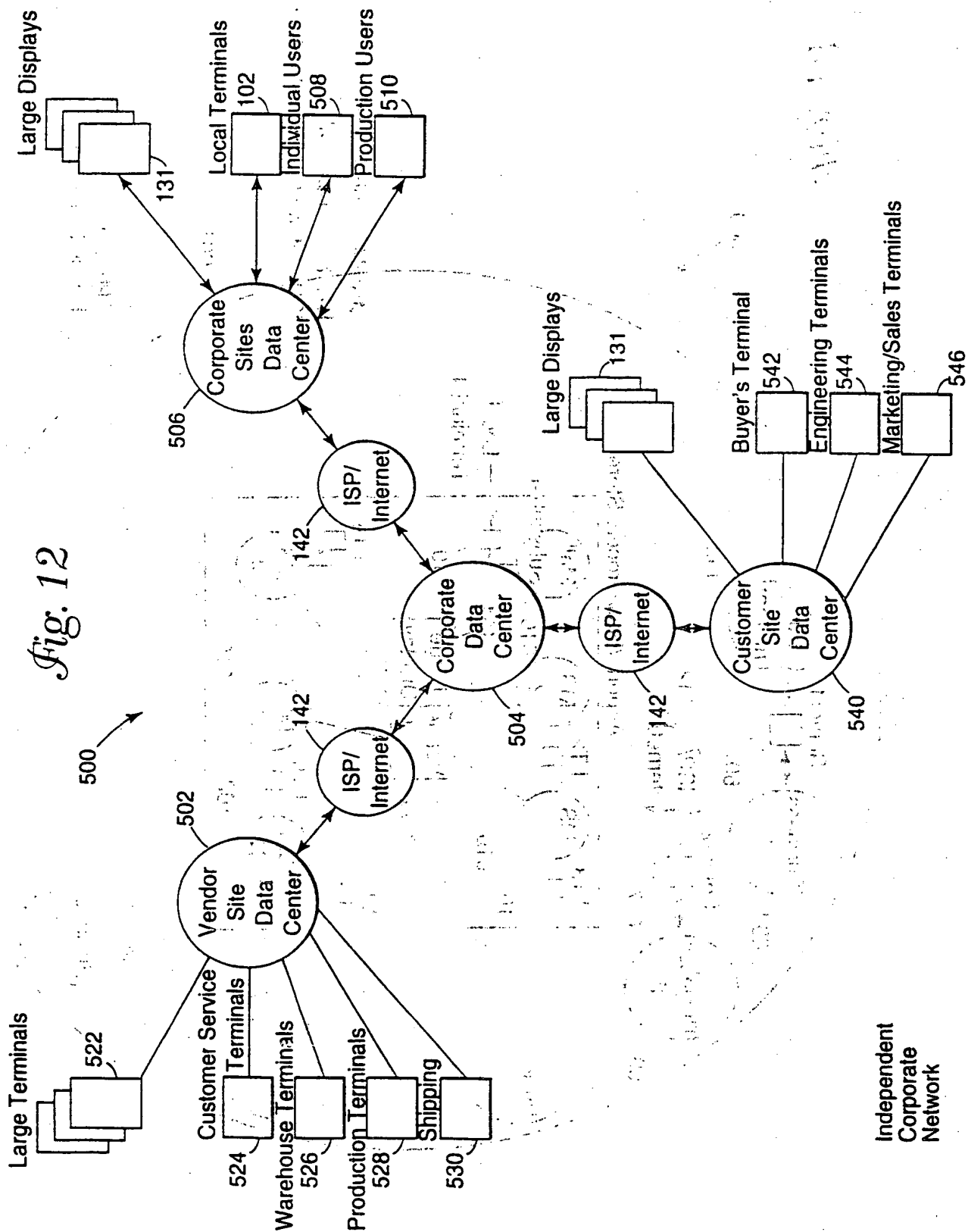
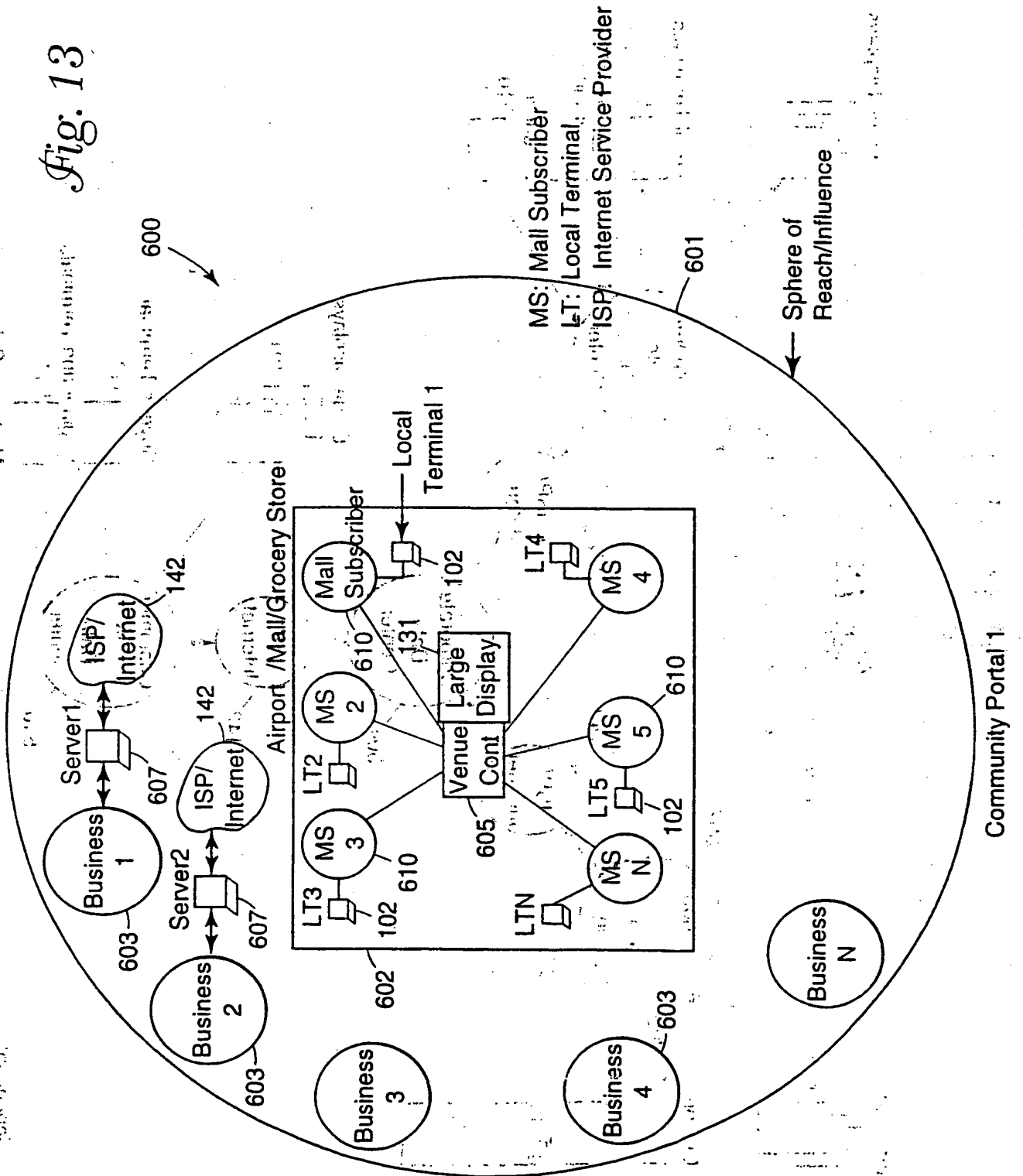


Fig. 13



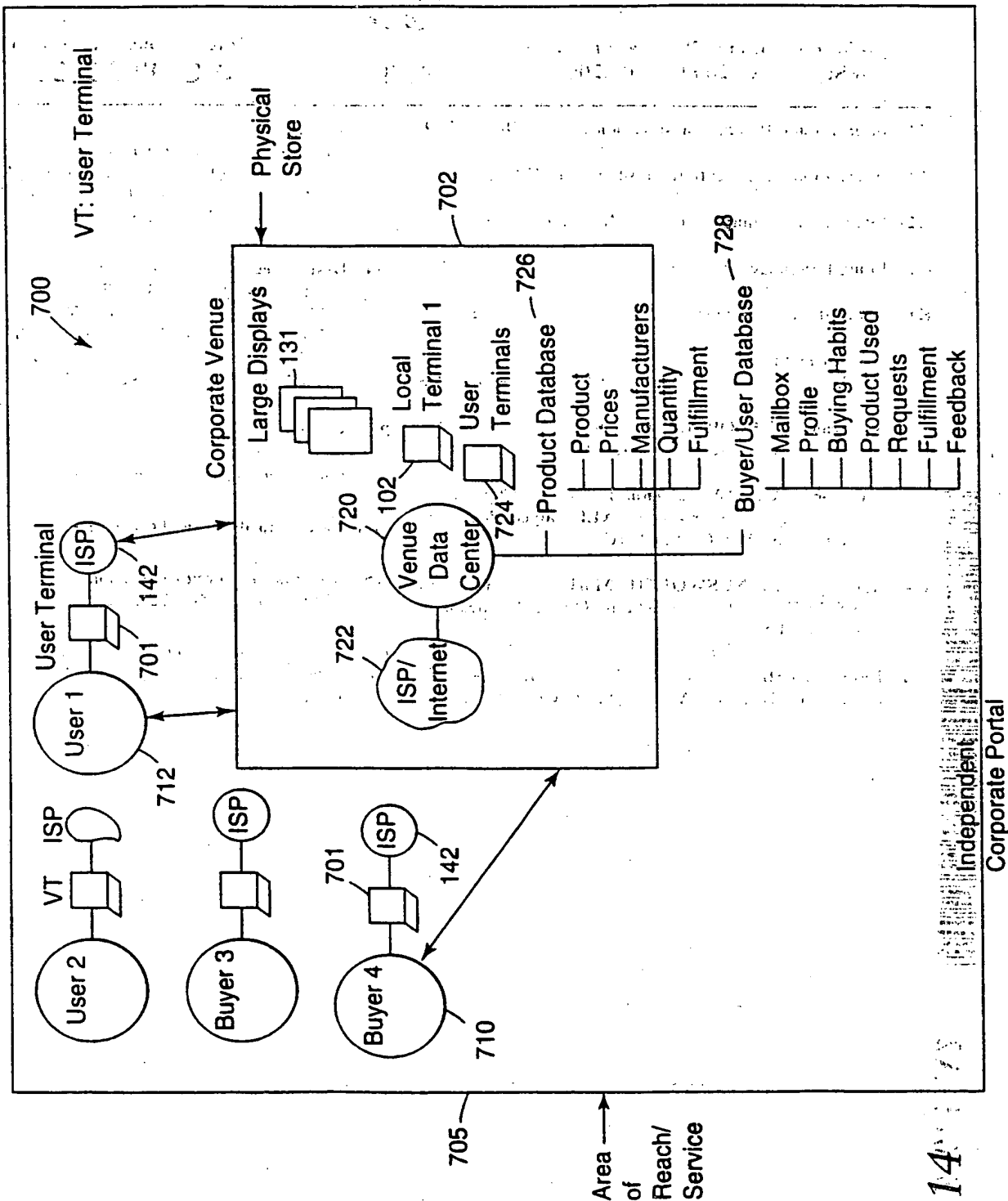


Fig. 14

REVISED VERSION

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
8 September 2000 (08.09.2000)

PCT

(10) International Publication Number  
**WO 00/52621 A2**

(51) International Patent Classification<sup>7</sup>: **G06F 17/60**

(21) International Application Number: **PCT/US00/05553**

(22) International Filing Date: **3 March 2000 (03.03.2000)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:  
**60/122,815** **4 March 1999 (04.03.1999)** **US**

(71) Applicant: **YUETOPIA, INC.** [US/US]; Suite 100, 2430  
Vineyard Avenue, Escondido, CA 92029 (US)

(72) Inventors: **AGARWAL, Anil, K.** 12793 Cherrywood  
Street, Poway, CA 92064 (US); **ALI, Saïyed, M.** 2633  
Unicornio, Carlsbad, CA 92009 (US).

(74) Agent: **HOLLINGSWORTH, Mark, A.**; Altera Law  
Group, LLC, 10749 Bren Road East, Opus 2, Minneapolis,  
MN 55343 (US).

(81) Designated States (national): **AE, AL, AM, AT, AU, AZ,**  
**BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK,**

**DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,**  
**IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,**  
**LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT,**  
**RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA,**  
**UG, UZ, VN, YU, ZA, ZW.**

(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent  
(AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent  
(AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,  
MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:  
— with declaration under Article 17(2)(a); without abstract;  
title not checked by the International Searching Authority

(48) Date of publication of this revised version: **30 May 2002**

(15) Information about Correction:  
see PCT Gazette No. 22/2002 of 30 May 2002, Section II

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: **GLOBALLY NETWORKED ADVERTISEMENT DISSEMINATION AND SCHEDULING SYSTEM AND METHOD**

(57) Abstract:

WO 00/52621 A2

# PATENT COOPERATION TREATY

# PCT

## DECLARATION OF NON-ESTABLISHMENT OF INTERNATIONAL SEARCH REPORT

(PCT Article 17(2)(a), Rules 13ter.1(c) and Rule 39)

Applicant's or agent's file reference <b>259.00010201</b>	IMPORTANT DECLARATION	Date of mailing (day/month/year) <b>25/01/2002</b>
International application No. <b>PCT/US 00/05553</b>	International filing date (day/month/year) <b>03/03/2000</b>	(Earliest) Priority date (day/month/year) <b>04/03/1999</b>
International Patent Classification (IPC) or both national classification and IPC <b>G06F17/60</b>		
Applicant <b>VUETOPIA, INC.</b>		

This International Searching Authority hereby declares, according to Article 17(2)(a), that **no international search report will be established** on the international application for the reasons indicated below:

1. ☒ The subject matter of the international application relates to:

- a. ☐ scientific theories.
- b. ☐ mathematical theories.
- c. ☐ plant varieties.
- d. ☐ animal varieties.
- e. ☐ essentially biological processes for the production of plants and animals, other than microbiological processes and the products of such processes.
- f. ☒ schemes, rules or methods of doing business.
- g. ☐ schemes, rules or methods of performing purely mental acts.
- h. ☐ schemes, rules or methods of playing games.
- i. ☐ methods for treatment of the human body by surgery or therapy.
- j. ☐ methods for treatment of the animal body by surgery or therapy.
- k. ☐ diagnostic methods practised on the human or animal body.
- l. ☐ mere presentations of information.
- m. ☐ computer programs for which this International Searching Authority is not equipped to search prior art.

2. ☐ The failure of the following parts of the international application to comply with prescribed requirements prevents a meaningful search from being carried out:


the description                      the claims                      the drawings

3. ☐ The failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions prevents a meaningful search from being carried out:

the written form has not been furnished or does not comply with the standard.

the computer readable form has not been furnished or does not comply with the standard.

4. Further comments:

Name and mailing address of the International Searching Authority:  European Patent Office, P.O. Box 1, 6818 Patentlaan 2 NL-2280 Rijswijk Tel: +31 (0) 340-2640, Tel: 01 651 661 661 Fax: +31 (0) 340-3016	Authorized officer:
--	---------------------

## FURTHER INFORMATION CONTINUED FROM PCT ISA/ 203

The claims relate to subject matter for which no search is required according to Rule 39 PCT. Given that the claims are formulated in terms of such subject matter or merely specify commonplace features relating to its technological implementation, the search examiner could not establish any technical problem which might potentially have required an inventive step to overcome. Hence it was not possible to carry out a meaningful search into the state of the art (Art. 17(2)(a)(i) and (ii) PCT; see Guidelines Part B Chapter VIII, 1-6).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

THIS PAGE BLANK (USPTO)



**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**

**THIS PAGE BLANK (USPTO)**